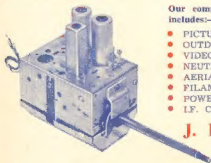


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AT5 Transmitters, less valves and dust covers .. £3

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AR8 Vernier Dials, low and high freq. Brand new .. £2

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SCR522 Transmitters, less valves .. £5

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2208.1 Kc.	5633.333 Kc.	6275 Kc.	6875 Kc.	7200 Kc.
2442.5 Kc.	5655.333 Kc.	6300 Kc.	6900 Kc.	7225 Kc.
2443 Kc.	5700 Kc.	6325 Kc.	6925 Kc.	7250 Kc.
2722 Kc.	5722.222 Kc.	6350 Kc.	6950 Kc.	7275 Kc.
2760 Kc.	5725 Kc.	6375 Kc.	6975 Kc.	7300 Kc.
2979 Kc.	5744 Kc.	6400 Kc.	7000 Kc.	7325 Kc.
2990 Kc.	5750 Kc.	6425 Kc.	7002.5 Kc.	7350 Kc.
3380 Kc.	5775 Kc.	6450 Kc.	7003 Kc.	7375 Kc.
3500 Kc.	5825 Kc.	6475 Kc.	7005 Kc.	7400 Kc.
3533 Kc.	5850 Kc.	6497.5 Kc.	7010 Kc.	7425 Kc.
3535 Kc.	5852.5 Kc.	6500 Kc.	7011.75 Kc.	7450 Kc.
3537 Kc.	5875 Kc.	6522.5 Kc.	7012 Kc.	7475 Kc.
3892 Kc.	5900 Kc.	6525 Kc.	7018 Kc.	7500 Kc.
3925 Kc.	5925 Kc.	6547.5 Kc.	7021.7 Kc.	7525 Kc.
4096 Kc.	5950 Kc.	6550 Kc.	7025 Kc.	7550 Kc.
4172 Kc.	5975 Kc.	6561.111 Kc.	7032 Kc.	7575 Kc.
4205 Kc.	6000 Kc.	6575 Kc.	7032.6 Kc.	7600 Kc.
4285 Kc.	6025 Kc.	6600 Kc.	7050 Kc.	7625 Kc.
4445 Kc.	6050 Kc.	6625 Kc.	7075 Kc.	7650 Kc.
4445 Kc.	6075 Kc.	6650 Kc.	7100 Kc.	7675 Kc.
4600 Kc.	6083.3 Kc.	6675 Kc.	7125 Kc.	7700 Kc.
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4930 Kc.	6125 Kc.	6725 Kc.	7150 Kc.	7750 Kc.
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AMATEUR RADIO

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WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK3WI: Sundays, 1130 hours EST, 7146 Kc. 2600 hours EST, 144 Mc. No frequency checks available from VK3WI. Intrastate working frequency, 7050 Kc.

VK3WI: Sundays, 1130 hours EST, simultaneously on 3970 and 7146 Kc., 97.5 and 148.25 Mc. Intrastate working frequency 7135 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI: Sundays, 0900 hours EST, simultaneously on 3369 and 14348 Kc. 3590 Kc. channel is used from 0915 hours to 1015 hours each Sunday for the W.I.A. Country hook-up. No frequency checks available.

VK5WI: Sundays, 1000 hours EAST, on 7146 Kc. Frequency checks are given by VK3MD and VK3WI by arrangements on all bands to 56 Mc.

VK6WI: Sundays, 0930 hours WEST, on 7146 Kc. No frequency checks available.

VK7WI: Sundays, at 1000 hours EST, on 7146 Kc. and 3672 Kc. No frequency checks are available.

VK9WI: Sundays, 1000 hours EST, simultaneously on 3.5, 7, 14 and 144 Mc. Individual frequency checks of Amateur Stations given when VK9WI is on the air.

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EDITORIAL



One of the outstanding features of any organisation operated by voluntary workers is that quality we know as loyalty.

In the Wireless Institute of Australia most of our honorary voluntary helpers are loyal in their attention to duty and it is refreshing to see how they carry on each year in the various departments in which they serve the general membership.

It is not uncommon and it is certainly refreshing to find men of outstanding ability in their technical, administrative or business activities giving such costly, loyal and continuous service over a period of many years in Institute affairs.

Sometimes we hear of members criticising certain executive officers of Divisions, Federal Council, or Federal Executive with the remark: "Oh he has been in the job too long."

Although such comments are considered to be fair and reasonable, especially by those who set themselves up as critics, it would only be sensible to pause a while and ask whether this long service does not reveal and demonstrate the loyalty of the person under attack.

Most organisations where honorary workers spend their time and exert their talents for the good of the general membership, have certain officers who, through long years of service, possess very valuable knowledge and experience which is essential to the constitutional operation of the society which they serve.

Of course the successful society is one whose members, by constitution-

al means, see to it that on each of their executive groups some new blood is injected from time to time, but nevertheless a stabilising effect can only be obtained when the society retains amongst its co-ordinators a fairly large proportion of "elder statesmen" whose memory of past experiences are used to stabilise the actions of the future.

We have heard it said that "so and so" has been in the job too long, but let us be sure that we don't get rid of him before we can replace him with someone of equal experience in his specialist field and in particular find his replacement by one of comparable loyalty and mature judgment.

Members of the Wireless Institute of Australia have ample constitutional means to rid themselves of any individual who is inefficient or who uses his position for financial gain, but let us remember that most honorary officers serve for the "love of the game" or because they believe in Ham Radio as a national asset and not because they desire personal elevation or public acclaim.

The matter of course rests with each Divisional member; if your Council, Federal Council, or Federal Executive is disloyal, inefficient, or lacking in experience or business acumen the fault is yours, you can alter the position by appropriate action at meetings, but keep in mind the vital question—"Will the new man be loyal over the years?"—before you change the officer in question.

FEDERAL EXECUTIVE

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Conversion of the AT5 for 80-40-20-15-10 Metres

BY D. C. HABERECHT,* VK2RS

WITH an apparent never-ending supply of these particular transmitters, and at a price which I feel sure would make the original manufacturers shudder, the question arose whether it is possible to convert them to Amateur use. In their original state they do quite a reasonable job on 80 and 40 metres, however the fact that above this, doubling in the p.a. is employed, it was considered that some considerable modification would be desirable to obtain better efficiency, a consideration which today on our very crowded bands was deemed necessary. It was decided that the following features would be included:

1. Simple conversion, i.e. without a complete re-build.
2. Straight through operation on all bands up to and including 10 metres.
3. A more suitable and more efficient p.a. tank circuit.
4. Some degree of harmonic attenuation in an effort to reduce the possibility of t.v.i., etc.

If all these features are to be included it would appear that it would need some really exhaustive modifications, however this is not the case, the complete job can be done in a couple of evenings, with only a few additional components required.

One point which I feel should be made known at this point, it is assumed that the I.F. portion is no longer required. Some of the components used in this section are removed, whilst others are re-used in the modifications.

CONVERSION

Stage 1—The V.F.O.

Locate the 4.5 Mc. oscillator coil. From the top end of this coil bridge or short out four turns. Remove the trimmer across the coil, adjust the iron-core so that 7.2 Mc. is tuned with the tuning condenser wide open. If this is still not tuning to the desired range remove or short out another turn. Some adjustment may here be necessary depending on the model. Incidentally, this coil is readily accessible as will be seen when all covers including the base plate are removed.

These modifications do not appear to effect the stability of the circuit. Long term tests by the author have proved the stability to be well within the Amateur's requirements.

Stage 2—First Buffer-Doubler

Remove all wiring from the socket of the 6V6 modulator stage with the exception of the filament, cathode and wiring to pin 6. This stage is then modified by the following method to become a buffer-doubler.

- (1) Remove the plate connection from the 807 buffer stage and re-connect to the plate pin of the 6V6.
- (2) Connect the screen to the screen supply of the 807 buffer, at the same time parallel a 40K resistor across the 807 screen dropping resistor.

- (3) Remove the 50 ohm grid stopper from the 807 grid; extend the pigtail and bring across to the 6V6 grid pin.

(4) Connect to ground the cold end of the original cathode by-pass condenser and resistor. These you will find mounted on the resistor strip above the valve sockets.

This then completes this stage. It will be seen that in effect all we have done is transferred the original 807 buffer circuit to the new 6V6 stage.

Stage 3—Second Buffer-Doubler

- (1) Connect a 100 pF. condenser from the plate of the 6V6 buffer to the grid of the 807, at the same time connect a 40K resistor from grid to ground.

(2) Remove all wiring from the l.f. oscillator tuning condenser, not forgetting three small condensers attached to the underneath side of the double gang

- (7) Return cathode bias resistors to ground through a keying jack if this has not already been done.

(8) Construct a 5-turn coil from 14 or heavier gauge copper wire, diameter of 1" and spaced to approximately 2" overall. Attach this to the rear end of the tuning condenser, preferably at the point where the 1,000 pF. condenser from plate to the tuning condenser is connected. The other end of the small coil is allowed to remain free until such time as the p.a. coil has been modified and re-fitted.

Modifications to P.A. Coil.—From the rear end of this coil remove all turns up to the first tap position, remove all connections to the rear switch section (this is no longer required). The first tap position (from rear) then becomes the 80 metre switch point and is returned to the first switch position. On the last switch point or 10 metre position the whole of the large coil is switched out of circuit and the 5-turn coil previously constructed is wired to this position. On 15 metres approximately one turn of the large coil is

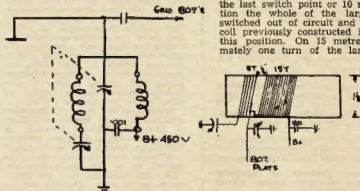


Fig. 1.—807 Buffer All-Band Circuit.

condenser. These are a little difficult to remove, due to their inaccessibility.

(3) Construct the all-band coil (described in Fig. 1) and connect as shown. It is possible to mount this coil vertically between the 6V6 buffer and 807, keeping the leads to the tuning condenser as short as possible.

Stage 4—Final

- (1) Remove p.a. tank coil and the two block condensers immediately accessible when the coil is removed.

(2) Remove all plate circuit wiring with the exception of the copper plate cap leads.

(3) Construct the p.a. r.f. choke (Fig. 2). Attach this to the bolt carrying the plate leads.

(4) Connect a 1,000 pF. 1 kv. condenser from the plate to the p.a. tuning condenser.

(5) From the lower end of the r.f. choke connect a 1,000 pF. by-pass condenser (1 kv. rating) to ground. From this point also connect a 25K 10 watt resistor to the screens of the 807s, at the same time remove the 0.1 μF. screen by-pass condensers and replace with 1,000 pF. condensers. Do not remove the screen stopping resistors.

(6) Remove screen circuit wiring to the on/off switch located near the aerial terminal.

added; the switch point for 15 metres then will be found at one turn from the front end of the coil. The 20 metre switch position is a further 4 turns from the 15 metre point. The 40 metre point will be found near to mid-way between the 80 and 20 metre points.

It is best to leave the final location of the various positions until the coil has been re-fitted and you are ready to test the set. For the best results the



Fig. 2.—P.A. R.F. Choke.

* 805 Abercorn Street, South Albany, N.S.W.

loaded resonance points should occur at the following capacities: 80 metres, maximum capacity; 40 metres, three-quarters capacity; 20 metres, approximately half capacity; 15 metres, quarter capacity; 10 metres, very nearly minimum capacity.

Stage 5

Remove the i.f. p.a. section (four sections) beneath the p.a. tuning condenser. Mount in this compartment a three-gang b.c. type tuning condenser with all sections paralleled. Mount in such a position that one of the holes previously taken up by the i.f. controls can be used. Connect this condenser to the moving arm of the p.a. band change switch. From this point connect

tune to 10.2 Mc. approximately only. It will in nearly all instances after the modifications have been effected, be found to tune to the desired range with a small overlap, no doubt the lower input capacitance of the 6V6 does help here). Tune the second buffer to 21 Mc. and adjust the p.a. and loading.

10 Metres: Adjust the v.f.o. to 7 Mc. on the modified 4-5 Mc. range, tune first buffer to 14 Mc. and second buffer to 28 Mc. Adjust the p.a. and loading.

Adequate drive for all bands with the exception of 10 metres should be available with 350 volts on the 807 buffer stage. However, it will be necessary to increase the plate supply voltage to 450 volts to gain sufficient for 10 metres with a little in reserve.

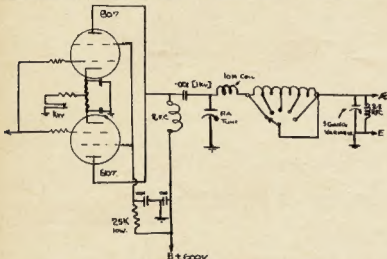


Fig. 3—Modified P.A. Circuit.

also a 2.5 mH. r.f. choke to ground. This choke will prevent arcing in the aerial loading condenser under modulated conditions. Also connect the aerial terminal to the moving arm of the switch.

TUNING PROCEDURE

80 Metres: Adjust the v.f.o. (3.5 Mc. range), first buffer broadly tuned with the plate circuit switched to the low end of the 10 Mc. range. Tune second buffer to 3.5 Mc. (near maximum capacity of all-band tuning condenser). Adjust pi-coupled p.a. to resonance and vary the aerial loading condenser until the desired coupling is obtained. If you are not familiar with the now popular pi-coupler and the methods of adjustment, it would be advisable to refer to one of the many articles to be found on this particular circuit and familiarize yourself on the way it works, etc.

40 Metres: Adjust the v.f.o. (3.5 Mc. range), first buffer as for 80 metres, tune second buffer to 7 Mc. (near minimum capacity of all-band tuning condenser), and adjust p.a. and loading.

20 Metres: Adjust the v.f.o. (3.5 Mc. range), first buffer tune to 7 Mc., tune second buffer to 14 Mc., and adjust p.a. and loading.

15 Metres: Adjust the v.f.o. (3.5 Mc. range), first buffer tune to 10.5 Mc. (although originally this circuit would

It is also possible to tune 15 metres by using the 7.0 Mc. oscillator range, triple in the first buffer, and straight through in the second buffer. This will permit more output or drive to the p.a. if this should be required.

The overall drive available with no voltage on the p.a.: 80 and 40 metres, over full scale; 20 metres, 12 Ma.; 15 metres, 9 Ma.; 10 metres (450 volts on 807 buffer), 7 Ma. or better.

It is hoped that this article may be of help to those who would like to convert an otherwise limited piece of equipment into a comparatively efficient All-Band Transmitter entirely suitable for Amateur use, most particularly for those who desire a compact transmitter.

The writer would be pleased to hear from anyone who may undertake this conversion and, of course, anyone who may have further suggestions.

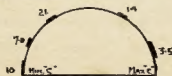


Fig. 4—Sequence of Band Positions on 807 Buffer Tuning Condenser.

VALVE DATA

5AS4

FULL-WAVE VACUUM RECTIFIER

The Radiotron 5AS4 is a full-wave vacuum rectifier of the filamentary cathode type, intended for use in power supplies of television and radio receiving equipment having high direct current requirements.

The 5AS4 has a maximum peak inverse plate voltage of 1550 volts, and a maximum peak plate current per plate of one ampere. When operated as a full-wave rectifier with an alternating plate to plate supply voltage of 600 volts r.m.s. in a circuit with capacitor input to filter, the 5AS4 can maintain a direct output of approximately 290 volts to the filter at a direct current of 300 Ma. Similarly, when operated as a full-wave rectifier with an alternating plate to plate supply voltage of 900 volts r.m.s. in a circuit with capacitor input to the filter the 5AS4 will maintain a direct output of approximately 460 volts to the filter at a direct current of 275 Ma.

Base: Octal.

Socket connections:

- Pin 1—No connection.
- Pin 2—Filament.
- Pin 4—Plate No. 2.
- Pin 6—Plate No. 1.
- Pin 8—Filament.

Electrical Data (tentative)

Filament Voltage	.....	5.0 volts
Filament Current	.....	3.0 amps.

FULL-WAVE RECTIFIER

Maximum Ratings:

Peak inverse plate voltage	.....	1550 max. volts
Steady state peak current per plate	.....	1.0 max. amp.
A.C. plate supply voltage (r.m.s.) per plate	.....	550 max. volts
Transient peak plate current per plate	.....	4.6 max. amp.

Typical Operation

Capacitor-Input Filter:

A.C. plate to plate supply voltage (r.m.s.)*	.....	600 900 volts
Filter input capacitor	.....	40 40 μ F.
Total effective plate supply impedance per plate	.....	21 67 ohms
Output current (direct)	.....	300 275 Ma.
Output voltage (direct at filter input)	.....	290 460 volts
Voltage drop across valve	.....	54 50 volts

Choke-Input Filter:

A.C. plate to plate supply voltage (r.m.s.)*	.....	1100 volts
Filter input choke inductance	.....	10 H.
Output current (d.c.)	.....	275 Ma.
Output voltage (d.c., at filter input)	.....	440 volts

*Measured without load.

MODEL "1XA" CRYSTAL MICROPHONE INSERT



AUSTRALIAN MADE — — FOR AUSTRALIAN CONDITIONS



FITTED WITH PLATED REAR SHIELD TO ELIMINATE HUM PICK-UP

- Patented crystal unit guarantees outstanding efficiency and performance.
- Protected against ingress of moisture with approved moisture sealed crystal element.
- Small — compact — lightweight — durable.
- Will not blast from close speaking.
- Precision engineering ensures realistic reproduction and high output with long life and dependable operation.

- The only unit available with a genuine sintered metal filter.
- Good high frequency response ensures excellent speech reproduction.
- Aluminium diaphragm mechanically protected and frequency controlled by "Zephyril" filter.
- Australian made throughout.
- Only carefully selected cements used throughout, to suit Australian climatic conditions.

TECHNICAL DETAILS

Rochelle salt crystal microphones are perhaps the most widely used for all types of service where quality speech and music reproduction at high output levels is a requirement. They are dependable in performance and when fitted with the appropriate "Zephyril" filter, their frequency response may be adjusted to suit any application or requirement.

This crystal microphone requires to be terminated with a high value parallel load of the order of 1 to 5 megohms for best results.

The mass of the moving parts is small, hence the sensitivity is high and a high efficiency is achieved.

Light gauge solder lugs are provided so that excessive heat in soldering will not be transmitted to the crystal element.

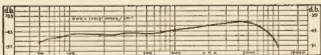
When mounted in a microphone cage, it is recommended that the insert be suspended in rubber, to eliminate shock and vibration.

One of the connecting lugs is directly connected to the case and care should be taken to solder the metal shield of the microphone cable to this solder lug, keeping the unscreened portion of the centre conductor as short as possible to eliminate hum pick-up.

All crystal elements are mounted on high grade suspension pillars, being fixed thereto with a good quality cement, thus ensuring stability and long life.

Case $1\frac{1}{2}$ " diameter (rear), $\frac{3}{8}$ " thickness, 1-13/16" overall diameter (front) with filter fitted.

Frequency Response = 60-8,500 c.p.s.
Output Level = -45 db (6 db = 1 volt/dyne/cm²)
Impedance = Model 1XA Grid 1 — 5 megohms.



Approximate Frequency Response Curve

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ZEPHYR PRODUCTS PTY. LTD.

58 HIGH STREET, GLEN IRIS, S.E.6, VIC.
Phone: BL 1300

Modifying the AR7 Receiver

PART ONE

BY G. M. BOWEN,* VK5XU

GENERAL DESCRIPTION

A communication receiver, based on the H.R.O. design, this receiver covers from 138 Kc. to 25 Mc. with a break at 410 Kc. to keep clear of the 455 Kc. i.f. channel. Five sets of coils contained in removable coil boxes cover this range. Tuning range ratio for A, B, C and D coil boxes is approximately 3:1 whilst E range covers from 12.5 to 25 Mc.

The receiver has eight valves, this including a double triode (6C8G), one half operating as a v.t.v.m. for the "S" meter, and the other for the b.f.o. circuit. The set I believe was originally designed around high gain pentodes but the shortage of overseas supplies made it necessary to use 6U7Gs, as r.f. and i.f. amplifiers, a 6J8G as converter, and a 6BG6 coupled to a 6V8G for the audio stages.

A very good crystal filter in a balanced tuned type of phasing network enables signals as close as 200 c.p.s. to be attenuated below nuisance strength when the filter is correctly aligned. (Quite a few sets being sold at present have had the crystal removed from the small mounting box).

The input to the first r.f. stage can be used with a balanced transmission line or alternatively one side can be bridged to earth and a single wire attached. The latter arrangement gives the best results for all band coverage for short wave listening.

Two r.f. stages give a large attenuation of second channel interference which can be a decided nuisance on the 14 Mc. band with the high powered broadcast stations on the 15 Mc. band.

No fancy circuitry is found; all sections follow well tried and trouble-free designs. The noise limiter is what it says and is not a noise suppressor of the lamb type and it reduces noise and signal to a common level. This is done by reducing the screen voltage on the 6C8G—first audio—to a point where saturation occurs on positive peaks and cut-off on negative peaks.

The power supply enables the set to be operated from the a.c. mains or from a 12 volt accumulator. It is separated from the receiver as is also the speaker. A pair of 6X5GT valves with plates paralleled ensures a very high degree of regulation, under mains fluctuation.

A study of the circuit will show that a.v.c. is applied to the first audio valve (6G8G) and this is done to achieve a certain amount of muting when there is no signal together with a much more uniform output of the audio signal. The 6V8G is coupled to an output transformer mounted on the chassis and this has output windings for the permag-speaker and the phones.

Quite a few receivers coming onto the Disposals market are performing very poorly and a common fault seems to lie in the misalignment of the crystal filter stage. When this is by-passed (leaving only the 1st i.f. and 2nd i.f. stages) the sensitivity of the receiver

● With this article we introduce a series relating to the popular AR7 Receiver. This part of the series gives a general description of the equipment and details of "tuning it up."

To those particularly anxious to improve the AR7, the series is especially recommended. You will be taken, stage by stage, through the entire receiver, being shown what steps should be taken to make the receiver comply with present day requirements.

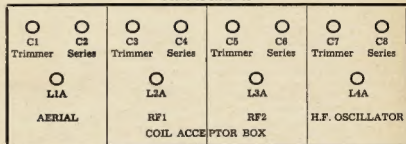
To those who feel that modifications to commercially built equipment are not justified, this, the first article, should appeal. We warrant you will, eventually, make all the modifications to be described!

isolates to a degree the b.f.o. input which is fed via a small trimmer condenser to the second diode. It is thus possible to operate with the b.f.o. and a.v.c. on, if an alteration is made in the switching. (See modification.)

Following usual practice a.v.c. is applied to both r.f. and i.f. stages as well as that mentioned already. The converter has no a.v.c. applied for obvious reasons. A 5,000 ohm potentiometer, in series with a 50,000 ohm bleeder resistor, affords separate manual control for the r.f. and i.f. stages and operates independently of the a.v.c.

The overall sensitivity of the set should be less than 2.5 microvolts input at any frequency for an output of 50 milliwatts measured across a resistance of 100 ohms connected to the "phones" jack.

Front of Receiver



improves remarkably. However, it should be possible to have the filter correctly aligned, but it needs the use of a wobulator and a c.r.o. to really do the job properly. Even then it takes up to four hours!

The controls are the usual ones found on this type of receiver and they are well labeled on an etched stainless steel escutcheon overlaid onto a steel panel. The dial mechanism should be checked to see that it has no play, before attempting any calibrating; the worm gear is spring loaded and although it may be worn, when it is cleaned up, greased with vaseline and the tension on the springs increased, the play should disappear.

The heaters of the valves are operated from a 12 volt winding on the transformer or are switched to the 12 volt d.c. input when operating from battery supply. Hence the series parallel connections to the sockets as follows: The two r.f. valves; the converter and the 1st audio (6G8G); the two i.f. valves; the 6V8G and the 6C8G, with a 42 ohm resistor across the heater of the 6C8G to allow 0.45 amp. to the 6V8G heater.

Delayed a.v.c. is obtained by rectifying the signal obtained from the plate of the 2nd i.f. valve and fed to one diode of the 6G8G. This connection reduces the loading on the secondary of the i.f.t., gives a higher voltage and

Adjustments to the coil units are made through the holes in the coil acceptor housing and are marked L1 to L4, C1 to C8 (see diagram).

- L1—Inductance adjustment on aerial coil.
- L2—Inductance adjustment on first r.f. coil.
- L3—Inductance adjustment on second r.f. coil.
- L4—Inductance adjustment on h.f. oscillator coil.
- C1—Aerial trimmer.
- C2—Series trimmer (Coil E only).
- C3—1st r.f. trimmer.
- C4—Series trimmer (Coil E only).
- C5—2nd r.f. trimmer (mixer input).
- C6—Series trimmer (Coil E only).
- C7—H.f. oscillator trimmer.
- C8—Padder, series condenser on h.f. oscillator coil for coils A, B, and C. Series trimmer (Coil E only). Coil D uses a fixed padder.

ALIGNMENT PROCEDURE

Extreme accuracy is required in the alignment of the i.f. circuits. Slight misalignment of these i.f.'s will have a marked effect on the sensitivity and selectivity of the receiver. They are permeability tuned with an iron-dust core and there is quite a deal of movement either side of resonance, which makes aural checking almost useless.

A very stable signal generator or a Bendix BC221 are suitable instruments.

(Continued on Page 8)

* 73 Portrush Road, Toorak Gardens, S.A.

Modifying the AR7 Receiver

(Continued from Page 5)

Remove the grid cap from the converter valve and connect the output of the signal generator through a 500 pF. and return the grid to earth through a 100K resistor. Connect the grounded side of the signal generator lead to the receiver chassis. Short out the oscillator gang to stop heterodynes from external signals getting into the i.f. channel and causing spurious readings.

Having checked to see that the crystal is still in the receiver, remove the small cover of the shielded section near the right hand side of the front panel—set the receiver controls as follows:

Crystal switch to IN; selectivity control on zero; phasing condenser to centre scale; a.v.c. switch to a.v.c. position; tone control on 10; r.f. gain on 8; noise limiter on 10; audio on 6; b.f.o. condenser to centre. Set the "S" meter adjustment to a suitable value that can be read easily.

Vary the frequency of the signal generator until a maximum reading is obtained in the "S" meter, indicating that the frequency is exactly that of the crystal. Leave the signal generator alone and switch out the crystal filter.

Adjust the iron cores; those above chassis level are grid circuits, below the plate circuits. Make quite sure that all movement is positive and that there are no loose slugs, etc. Leave L5A, the crystal filter transformer grid circuit, well alone for the present (this appears beneath the chassis and is the nearest screw to the chassis side). Align the i.f.s. in the usual order from the converter to the second detector.

To check whether the xtal filter is aligned swing the signal generator plus and minus 5 Kc. of the setting and note whether the reduction in signal strength reading in the "S" meter falls off symmetrically. If it does, then do not meddle with any part of the filter circuit; if it doesn't, then tread warily. Leave it alone for another occasion!

Now to the r.f. amplifiers and h.f. oscillator. If there is any reason to doubt the mechanical construction of the coils and their trimmer condensers (and if you have just got them from Disposals there is every reason), remove the coil shields from the structure and then the coil and condenser assembly carefully. Do not expect to find all the connections identical. Note carefully on paper the way that the connections are made and save yourself a headache later.

With coils A, B, C and D the alignment procedure is the usual low frequency inductance and high frequency trimmer adjustment that can be found in any handbook. Coil E has neither padder nor inductance adjustment since the series condenser will perform the necessary band spreading.

In Coil E, the series trimmer C8 is adjusted instead of L4 to obtain the correct oscillator range; C2, C4 and C6 are adjusted at the low frequency end of the range and C1, C3 and C5 at the high frequency end.

Since Coil A covers a band which very few Amateurs are interested in, this article will deal with the conversion of this unit to operate from 25 to 35 Mc.

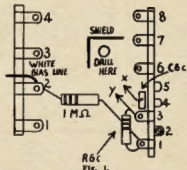
Type 3 Mark II. Receiver

Adding A.V.C. and Audio Volume Control

BY G. M. BOWEN,* VK5XU

THOSE of us who are fortunate enough to own one of these receivers realise what wonderful little sets they are for mobile work as well as for standby shack receivers. However, they were never designed to receive phone signals and therefore a.v.c. was not incorporated. This fact, for Amateur work, is likely to cause the loss of one's eardrums when tuning over the band if we have the gain control on maximum and land on an S9+ signal.

Having had this happen to me a few times, the circuit was studied for an easy way to add a.v.c. It was quickly ascertained that the gain control was not the usual cathode bias type, but used a back-bias system and a 50K potentiometer (VR1). An isolating 470K resistor (R6D) connects this gain control line to the grid circuits of the two i.f. valves.



C8C is 0.001 uF. condenser and R6C is 150K resistor. Tag No. 2 (right hand strip) is earthed.

Getting the little grey cells to work, it was reasoned that a 2 megohm resistor connected from the bottom end of the third i.f. to the "bias" line on the other side of the resistor (R6D) would do the trick. Each one of us is loath to dive into the inside of a commercial receiver, but after much delving around to find R6D and the junction of R1D (1 megohm) and R6C (150K), it was discovered that a 1 watt resistor with its nice long leads fitted exactly between the two tie points (see diagram).

Subsequently it was found that a 1 megohm resistor worked better than the 2 megohm one. With the chassis upside down and the control panel away from you, you will see two solder tag strips running at right angles to the front panel. On the left one there are four soldered connections, and on the right, eight connections at the top nearest to you.

Simply solder the 1 megohm resistor between the two soldering positions as shown in the diagram and a.v.c. is yours.

To really obtain the benefit of a.v.c. the r.f. gain control needs to be at maximum, or nearly so, and hence some form of audio volume control is needed. This modification is not quite so easy, but is still "a piece of cake" as we say! The most important item is a 500K miniature potentiometer and these are now available—mine is a Ducon with a diameter of one inch.

Drill a hole, immediately above the b.f.o. condenser, in the front panel to take the potentiometer, allowing enough clearance for the cover to be replaced when the operation is over. Mount the pot with its solder tags facing towards the central division screen. Now, with the chassis upside down again refer to diagram and then find the small shield around the second i.f. valve socket. Drill a hole as shown large enough to take two shielded leads from X and Y up to the potentiometer.

Lead X solders to the moving arm (centre centre tag) of the pot, and Y to the maximum in the usual volume control circuit arrangement. Disconnect C8C from the solder tag (No. 4 in diagram) and attach to the lead X. Do not forget to earth the braid and the potentiometer in the usual manner.

Now, connect up the receiver and note the vast difference you have succeeded in getting.

A further improvement can be had by diving into the power supply and soldering a 250 ohm 3 watt resistor in parallel across the bias resistor that you see attached to the output sockets. Now that you have a.v.c., it is unnecessary to have such a high value of fixed bias on the valves and the gain on weak signals is very much improved.

Do you need a switch to short out the a.v.c. when receiving c.w.? No! The r.f. gain control (marked volume on the knob) is backed off until the bias is high enough on the valves to stop the action of the a.v.c. and the audio volume control is then adjusted for comfortable level.

If you need proof that the a.v.c. is working turn the meter switch (on the tx of course) into position 1 and note how the receiver voltage rises and falls with the signal strength.

Don't be worried by the fact that the 500K potentiometer is in parallel with the detector diode load R1D (a 1 megohm resistor) for I found by experimenting with isolating condensers that there was no measurable difference whichever way I had the circuit. Since the above method is the easiest and works well, I leave it to you. The 500K potentiometer can be replaced by a 1 megohm one as the value is not critical.

* 73 Portrush Road, Toorak Gardens, S.A.

A SIMPLE CAPACITY BRIDGE FOR THE BLIND

BY A. W. DUFFIELD, ZL2DT

WITH a keen interest in Radio, such as it was in my school days, I suppose that it is only natural that I would become interested in Ham Radio. I passed the necessary examination and was issued with the call ZL2DU. After about five years' activity other interests were developed and this call was allowed to lapse and the station was dismantled.

At the re-opening of the Amateur bands in 1945 I again became interested and was issued with the present call of ZL2DT. However, six months later I had the misfortune to lose most of my sight. At this time I was living at Foxton Beach, but after coming out of hospital, I came back to Palmerston North to live with my parents.

At first, time hung heavy on my hands, but as my Ham gear began to drift back from the beach, I found a new interest in Radio.

It was quickly realised that new methods of construction would have to be evolved, particularly in soldering by touch. During this period considerable swearing ability was also developed. For some time a standard type of electric iron was used but later a quick-heating type was bought and better and less painful soldering was done. No restrictions were placed on my building of equipment except that all live spots had to be completely shielded against accidental contact.

My remaining sight was slowly deteriorating and in about three years my meters were useless to me even with the magnifying glass. My thoughts turned towards a transmitter which would not need tuning up every time I wanted to change bands. A broad-band switched exciter was built to give output on 3.5, 14 and 28 Mc. This unit worked into separate buffers and finals for each band. Though this outfit

worked quite well, it was irksome that I had to get someone to check the meter readings.

I replaced the commercially made frequency meter with the home-made touch-reading one which has already been described in "Break-In." When information was received via the Braille Technical Press, on auditory meters, a multi-tester of this type was built.

Some trouble was experienced in obtaining the necessary accurate resistors for this job, but, with the co-operation of local Amateurs and Dealers, a selection was made. Though the principle is simple, the results are amazing. This unit gave voltage readings up to 1,000 at 20,000 ohms per volt. Current readings are from 1 amp. down to a tenth micro-amp. Resistance readings are from 1 ohm to 10 meg. There are eight ranges to each use. Very precise measurements are possible and the accuracy is mainly governed by the accuracy of the resistors used in its construction. This instrument, together with a simple capacity bridge, solved my colour-code problems. An auditory continuity checker which will show continuity up to several thousand meg. is also a useful piece of gear.

During the past eight years, practically all the alterations to the rig have been confined to the r.f. section and the ease of change from hand to band has been the major consideration. About two years ago work was started on the present rig. The exciter unit measures $6 \times 6 \times 10$ inches and uses four 12A6s and a 1625. At the turn of a switch it will give output on any of its five bands. This unit also houses an auditory meter which reads the voltages of the five power supplies together with grid and plate currents of the larger tubes.

The final uses a pair of 24Cs. The final tank condenser is the result of a

lot of thought and work. It comprises five rotors and ten stators and two neutralising condensers built around a five position two pole band selection switch. Each pair of stators has its own coil and the condensers are set and left tuned to the part of the band most used.

This rig is modulated by a pair of 1625s in Class AB2. A 3-position switch gives c.w., phone and tune-up positions.

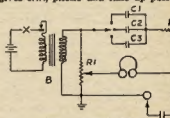


Fig. 1—Capacity Bridge.
C1—3 uF. R1—500 ohms.
C2—0.01 uF. R2—300 ohms.
C3—0.0001 uF. B—ZC1 buzzer.

CAPACITY BRIDGE

As I was having trouble sorting out condensers, my thoughts turned toward a meter which would give me some assurance that I had picked out the right one for the job. The following unit was built, though it has now been replaced by a combined capacity inductance bridge.

The reading is taken with a pair of headphones when a null is produced by the balancing of the bridge. It is powered from a pair of torch cells driving a ZC1 buzzer.

As standards, three ordinary "run-of-the-mill" condensers were used. When checking electrolytics, the balancing resistance R2 in series with the standards is set to give the best null and is left in the minimum position at other times. The balancing potentiometer should be a linear wire wound job and the resistance value is not critical.

The highest output tap on the buzzer was used. The signal in the phones in out of balance condition on the two high capacity ranges is very high, and it would be a good idea to make the range switch a double pole affair so that a lower tapping could be used or resistances switched into the circuit on these ranges.

The unit was built into a box 5 x 5 x 2 1/2 inches with the balancing pot near the centre with about a 3 inch diameter scale. When calibrating the instrument, values equal to the standard condensers will fall close to the centre of each scale, but the stray capacity will probably shift the lowest range somewhat.

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AMATEUR CALL SIGNS

FOR MONTH OF JANUARY, 1957

CHANGES OF ADDRESS

- VK— New South Wales
 ZKG—K. H. Greenhalgh, Garden Grove Pde.,
 Adamstown Heights.
 2ML—R. M. Ellison, 17 Station St., Cormal.
 ROZ—W. E. Dixon, "Piccadilly," West Market
 St., Richmond.
 ZPT—A. Stephenson, 10 Sketchley Pde., New
 Lambton.
 ZKD—K. J. Williams, "Kenmar," Knights Rd.,
 Gt. Gt. Gt.
 2AFH—C. W. R. Holman, 24 Wyong Rd., East
 Lambton.
 2ALQ—J. M. Brennan, 9 Boronia St., Dee Why.
 2AOB—H. R. Digby, 23 Belwara Rd., Narra-
 ran.
 2APB—E. A. Hayward, 21 Bellamy St., Pen-
 nant Hills.
 2ASY—S. A. Sibly, 23 Panarama Rd., Kings-
 grove.
 2AXD—E. A. Druiitt, 13 Curban St., Griffith.
 ZCCH—A. K. Hore, Allambee Rd., North Manly.
 3KU—B. D. Clarke, 154 Nell St., Greenbor-
 ough.
 3QG/T—C. P. Smith, 12 Peel St., North Bal-
 BYH—R. W. Fisher (Cpl.), R.A.A.F. Unit, Wer-
 rits.
 3AGI/T—J. G. W. Grove, 1 Hood St., Hampton.
 3AIN—L. Grant, 1 Donald St., Burwood.
 3AMC—J. McDonald, 22 Glenbrook Ave., East
 Malvern.
 3ANC—R. M. Chapman, C/o. P.O. Mirboo
 North.
 3APK—P. C. Perkins, 25 Arthur St., Belmont.
 3AXX—E. M. Turnbull, 24 Bethall Ave., Park-
 dale.
 3ZBJ—G. S. Jennings, 66 Laura St., Appen-
 dale.
 3ZCF—J. B. Fraser, 109 Adair St., Ballarat.
 4LC—J. L. Currie, King St., Caboolture.
 4DY—E. Wright, 44 Garden St., Stones Cor-
 ner, Brisbane.
 4SN—F. Shannon, 16 Tongue St., East Ips-
 wich.
 South Australia
 5JE—E. J. Cawston, 45 Seaford Ave., Som-
 erton Park.
 Western Australia
 IEE—R. R. Elkin, 31 Alfred St., Leederville.
 6ZAG—R. G. Smith, 1 Clause St., Willagee.
 Tasmania
 7SD—D. M. Smith, 77 Hampden Rd., Hobart.

CANCELLED CALL SIGNS

- VK— New South Wales
 ZZBJ—G. Jenkins (Capt.), Transferring to Vic.
 Victoria
 3HN—E. W. Martin.
 3IQ—K. J. Duff.
 3RO—R. J. Biddle.
 3AFB—R. J. Buty, Now VK2ANB.
 3AHK—C. W. R. Holman.
 3AKX—A. K. McLennan.
 3AND—N. V. Crewe, Now VK2ZBO.
 3ZBO—R. E. V. Crewe, Now VK2ZBO.
 Queensland
 4GP—D. A. Crowler, Now VK6LY.
 4SK—B. S. St. George, Now VK3AUS.
 South Australia
 6ZAI—A. D. Nutt, Transferring to N.S.W.
 Western Australia
 6JY—B. Bellringer.
 Tasmania
 7ZAW—P. Woodruft, Transferring to Vic.
 7GM—A. G. Kirmisse, Now VK3AGK.
 Territories
 1RB—R. Dowden.
 Permits Granted For
 Television Experiments
 VK— New South Wales
 2LT/T—W. E. C. Bischoff, 4 Buena Vista Ave.,
 Wentworth Falls.
 5SD/T—L. W. N. Squires, 37 Fletcher St.,
 Bondi.
 2ZCF/T—R. C. F. Norman, 23 Queen St.,
 Croydon.
 Victoria
 3TV/T—J. P. Irvine, 258 Balwyn Rd., Balwyn.

FOR MONTH OF FEBRUARY, 1957

NEW CALL SIGNS

- VK— New South Wales
 2AHL—W. A. Lewis, 437 Woolware Rd., Bur-
 rumbidgee.
 2AKW—G. H. Humphrey, 23 Davidson Ave.,
 Concord.

- 2ATF—A. Field, 13 Merris St., Belmore.
 2ATP—K. E. Peters, 40 Howard Ave., Dee
 Why.
 2ZBN—A. D. Nutt, 12 Austral Buildings, Amac
 Parade, Manly.
 2ZDP—E. A. Phipps, 194 Princes Highway,
 Sutherland.
 Victoria
 3ED—F. D. Smith-Wescott, 40 Queens Ave.,
 St. Arnaud.
 3ASA—L. R. Schulz, 174 Nelson St., Nhill.
 3AVA—R. B. Moxley, 6 Crosswell St., Caulfield.
 3ZAP—P. Woodruft, C/o. 19 Brunell St., Esson-
 don.
 3ZCI—W. L. Tremewyn, Ferndale Ave., Up-
 ury.
 3ZCN—Q. L. C. Jenkins, Noble St., Noble Park.
 3ZCO—L. M. Stone, 18 Douglas St., Rosanna.
 3ZDN—E. M. Macrae, 1 Symonds St., East
 Hawthorn.
 Queensland
 4RP—Air Training Corps, R.A.A.F., Perry Park,
 Brisbane.
 4ZDR—D. W. Rickard, Meyer St., Southport.

CHANGES OF ADDRESS

- VK— New South Wales
 2EM—R. M. Ellison, The Grange, Kings Rd.,
 Cobarong.
 2MP—M. E. Pfeffer, 59 Cox St., Windsor.
 2VP—R. A. Bladen, 2a Boronia St., Balgawah.
 1ANE—Eastern Command Signal Regt., Gorm-
 ley St., Lidcombe.
 2ANP—Ridge, Naval Amateur Radio Station,
 R.A.N. Air Station, Nowra.
 2AQC—P. R. Ladd, 21 Walworth Ave., New-
 port.
 2AYB—W. Pratt, 27 Chapman St., Kiama.
 2AWI—Wireless Institute of Australia (N.S.W.
 Div.), Quarry Rd., Dural.
 2AWY—W. O. Yates, 17 Kite St., Orange.
 Victoria
 3AAI—N. K. J. Felstead, 83 Haldane St.,
 Benarua.
 3AGK—A. G. Kirmisse, Lot 15 Canterbury Rd.,
 Reservoir.
 3AJQ—R. R. King, Lot 8 Cassia Gr., Frank-
 ston.
 3ARB—A. Bourchier, 841 Clarke St., North-
 cote.
 3AUS—D. D. Wheeler, 31 Barnard St., North
 Kew.
 3AUX—G. R. Hughes, 2 McMillan St., Etern-
 wick.
 Queensland
 4GG—G. Heilbrunn, Smith St., Millmerran.
 4ZZ—J. L. Kane, 61 Tomboul Rd., Northgate.
 South Australia
 5FK—P. J. Harper, 17 Second St., Keith.
 5KD—D. Dawson, 5 Fairfield Rd., Elizabeth
 South.
 5OC—L. O. C. Baker, Old Belair Rd., Belair.
 5PO—A. M. Priming, 7 Fourth Ave., Klemzig.
 Western Australia
 6PL—F. C. Lambert, 83 Second Ave., Basse-
 dean.
 6LA—L. C. Allen, 109 Lockhart St., St. Geo.
 Tasmania
 7CA—M. A. Chaplin, 64 Bald Hill Rd., Treval-
 lyn.
 7DC—W. H. Clifford, 4 Shasta Ave., Moonah.
 7ZAG—G. G. Grewling, 14 Kyrnham Rd.,
 Claremont.

CANCELLED CALL SIGNS

- VK— Australian Capital Territory
 1AFW—A. F. Fry.
 New South Wales
 2TO—L. G. England.
 2AIV (Portable)—W. H. Kennedy.
 2ATN—F. G. Barron.
 Victoria
 3PD—D. Burkhitt.
 3ACO (Portable)—D. A. Greenham.
 Queensland
 4FA—A. Field, Now VK3ATF.
 South Australia
 5WG—G. N. Covan.
 Tasmania
 7BL—B. E. Lloyd, Transferred to Victoria.
 7ZAH—L. J. Rodkinson.

PERMITS GRANTED FOR TELEVISION EXPERIMENTS

- VK— New South Wales
 2CL/T—L. H. Taylor, 43 Hardy St., Ashfield.
 2ZHT/T—J. McNaughton, 56 Killestoun St.,
 East St. Ives.
 2AGO/T—N. G. Wilson, 31 Glenview St.,
 Greenvale.
 2AHH/T—N. A. Hanson, 3 Ryan Ave., West
 Kempsey.
 2ANF/T—J. R. C. Miller, 21 Sutherland St.,
 Lane Cove.
 Victoria
 3YS/T—F. G. Ball, 62 Shannon St., Box Hill.

Ross Hull Memorial Trophy V.H.F. Contest Results

Outright and Trophy Winner:
VK3ALZ.

Awards:

VK3ZQA (L.A.O.C.P.)
 VK5ZAM (Call Area and
 L.A.O.C.P.)
 VK7PF (Call Area)

Scores:

VK3ALZ	934 Points
VK3ATN	896 "
VK3ZQA	774 "
VK3ZAT	744 "
VK3ZBE/AEL	428 "
VK3ZAE	349 "
VK3ZD	284 "
VK3ZBS	271 "
VK3YS	240 "
VK3ZCG	216 "
VK3OJ	183 "
VK3ZAM	286 "
VK5CB	194 "
VK7PF	213 "

AUSTRALIAN V.H.F. RECORDS

50 Mc—

	Date	Miles
VK5KL-WIACS/KH6	26/8/47	5355
VK2ER-JA1ANG	..	4654
VK4NG-JA1AHS	22/1/56	4145
VK6HKH-VRCG	3/1/55	3928
VK6WG-VRCG	3/1/55	3616
VK9DB-ZL3GS	26/12/53	2804

56 Mc—

What Records?

144 Mc—

VK5GL-VK6BO	30/12/51	1321
VK5QR-VK6BO	9/2/52	1319
VK3ZCW-VK7LZ	18/2/57	512
VK3GM/3-VK7LZ/PF	9/3/52	317

288 Mc—

VK5MT/5-VK5RO/5	13/4/52	109
VK3AFJ/3-VK3AAF/3	21/3/54	64

576 Mc—

VK3ANW-VK3AKE	11/12/49	81.6
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2300 Mc—

VK3ANW-VK3XA	18/2/50	9.1
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— — — —

VK3AE TO OPERATE AT HOBBIES EXHIBITION IN ALICE SPRINGS

In conjunction with the Alice Springs Youth Centre's "Hobbies" Exhibition, which is to be held on 6th May, it is the intention of local Amateurs to instil a working exhibit.

The station, which will operate on telephony in the 14 Mc. band, will use the call sign VK3AE (that of Mr. F. A. Eastick, of Alice Springs). Operators will be VKs 5AE, 5EW and 5TL.

As 6th May is a local holiday (Northern Territory only) it is intended that the station shall be staffed during the afternoon and evening; the show being a one-day fixture.

Amateurs are requested to look out for VK3AE and line up many QSOs thus showing how effective Amateur Radio can be to the public present at the Exhibition.

Arrangements are being made for a Special QSL card to be provided for all contacts.

VALVE DATA

6AL5

TWIN DIODE

The Radiotron 6AL5 is a miniature twin diode which, because of its high pervence, is suitable for use as detector in circuits utilising wide band amplifiers. It is particularly useful as a ratio detector in television receivers, where its low internal resistance makes it possible to obtain increased signal voltage from a low impedance signal load.

Each diode has its own plate and cathode base-pin connections and can, therefore, be used independently of the other or combined in a parallel or full wave arrangement.



Glorad

5 WAY PLUGS AND JACKS

as used on our Kitsets and Industrial Equipment are now available in two grades.

Black Bakelite Mouldings:

PLUGS 10/6, JACKS 8/6.

Natural R.F. Quality Mouldings:

PLUGS 11/-, JACKS 9/6.

Physical Size:

3 1/4" long, 3" wide.

★

Available direct or from
William Willis Pty Ltd.

★

Glorad

ENGINEERING SERVICES

291a TOORONGA ROAD,
MALVERN, S.E.6, VIC.

Phone: BY 3774

The resonant frequency of each unit is approximately 700 Mc.
Base: 7 pin miniature.
Socket connections:
Pin 1—Cathode of Diode No. 1.
Pin 2—Plate of Diode No. 2.
Pin 3—Heater.
Pin 4—Heater.
Pin 5—Cathode of Diode No. 2.
Pin 6—Internal Shield.
Pin 7—Plate of Diode No. 1.

Heater Voltage	6.3 volts
Heater Current	0.3 amp.

HALF-WAVE RECTIFIER

Maximum Ratings:	
Peak inverse voltage	330 max. volts
Peak plate current per plate	54 max. Ma.
D.C. output current per plate	9 max. Ma.
Peak Heater-Cathode Voltage:	
Heater negative with respect to cathode	330 max. volts
Heater positive with respect to cathode	330 max. volts
Typical Operation:	
A.C. plate voltage per plate (r.m.s.)	117 volts
Min. total effective plate supply impedance	300 ohms
D.C. output current per plate	9 Ma.

6AQ5

BEAM POWER AMPLIFIER

The Radiotron 6AQ5 is a miniature beam power pentode designed primarily for use as the output valve in a.c. operated receivers. Within its maximum ratings the performance of the 6AQ5 is equivalent to that of the larger type 6V8GT.

Base: 7 pin miniature.
Socket connections:
Pin 1—Grid No. 1.
Pin 2—Cathode, Grid No. 3.
Pin 3—Heater.
Pin 4—Heater.
Pin 5—Plate.
Pin 6—Grid No. 2.
Pin 7—Grid No. 1.

Heater Voltage	6.3 volts
Heater Current	0.45 amp.

CLASS A1 AMPLIFIER

Maximum Ratings:	
Plate voltage	250 max. volts
Grid No. 2 voltage	250 max. volts
Plate dissipation	12 max. watts
Grid No. 2 input	2 max. watts
Peak Heater-Cathode Voltage:	
Heater negative with respect to cathode	90 max. volts
Heater positive with respect to cathode	90 max. volts
Typical Operation:	
Plate voltage	250 volts
Grid No. 2 voltage	250 volts
Grid No. 1 voltage	—12.5 volts
Transconductance	4100 amhos
Plate resistance (approx.)	52000 ohms
Plate current (zero signal)*	45 Ma.
Grid No. 2 current (zero signal)	4.5 Ma.
Load Resistance	5000 ohms

Power output (max. signal) 4.5 watts
Total harmonic distortion 8 %
Maximum Circuit Values:
Grid No. 1 Circuit Resistance.
For fixed bias operation 0.1 max. megohm
For cathode bias operation 0.5 max. megohm

C.D.E.N. NEWS

Your Federal Co-ordinator had a long and interesting interview with the Director of Commonwealth Civil Defence, Brigadier Wardell, M.C. During the interview the Director expressed great interest in the Institute's activities and requested full information on all Institute activities together with map showing location and call of all members of the C.D.E.N. He also pointed out that in order to make full use of C.D.E.N.'s potentialities it was essential for Divisional Co-ordinators to have a complete and up-to-date picture of the operational state and ability of equipment.

In order to enable your Divisional Co-ordinator to prepare the required information you are requested to immediately send the following information to him:

- Whether you are prepared to serve as full time member of C.D.E.N., that is, take part in all activities.
- If not able to serve as full member are you prepared to become casual member, that is, make your services and/or equipment available in an emergency.
- Give details of equipment including power and frequencies covered. (a) fixed, (b) portable, (c) mobile, (e) power supplies.
- Provide names of additional operators available in an emergency. Thereafter to keep him informed of any changes.

A copy of the proposed Authorisation Card for C.D.E.N. Members was submitted to the Director who promised to bring it to the attention of the State Authorities who are responsible for implementation of Civil Defence plan, at the appropriate time. Details of the Card will be published when Federal Council has given its approval to the final draft. This we hope will be given following the Federal Convention.

The next Communications Study Period will be held at the Commonwealth Civil Defence School at Mount Macedon in May. Apart from Institute Divisional representatives who will be invited by the States, your Federal Co-ordinator will be present at the personal invitation of the Director to represent Federal Executive of the W.I.A. during the discussion period.

In order to ensure prompt publication in this column of any emergency activity members are requested to send story direct to Federal Co-ordinator with a copy to Divisional Co-ordinator for his information.

IONOSPHERIC PREDICTION CHART

Owing to circumstances beyond our control we are unable to print any predictions this month.

1956 VK-ZL DX CONTEST RESULTS

AUSTRALIA

C.W.—	Total	40	20	15	10
Call					
VK3GW	4136	104	1441	1039	892
2QL	2846	158	1207	740	743
2BA	2311	—	1632	879	—
2JY	1080	—	—	1080	—
2JX	791	—	—	—	791
VK3PG	3750	—	1172	1584	994
3DQ	1873	198	378	961	365
3ALZ	1317	—	—	644	673
3AHB	942	—	942	—	—
3XB	728	458	270	—	—
3HL	548	—	548	—	—
3RJ	179	—	179	—	—
3CX Check Log.					
VK4SD	837	—	837	—	—
4DI	533	—	—	533	—
VK5DK	2431	—	1807	568	358
5MY	1185	—	1185	—	—
5WO	1098	—	255	573	300
5JT	420	—	143	125	152
5RX	365	—	365	—	—
5RK	293	—	293	—	—
VK6RU	3308	—	1215	1040	994
6UF	690	—	690	—	—
VK7UW	3130	—	1421	1699	—
7KM	1623	308	874	441	—
7LZ	1514	29	281	412	792
7RT	689	—	689	—	—
7CH	557	—	557	—	—
7WA	105	—	—	105	—
VK9DB	4800	—	922	1769	1909
9KX	3309	272	922	1018	1097
9OQ	1243	—	1243	—	—

Band Leaders (C.W.)—

All Bands—VK9DB	4800 pts.
40 mx—VK3XB	892 pts.
20 mx—VK2BA	1632 pts.
15 mx—VK9DB	1769 pts.
10 mx—VK9DB	1909 pts.

PHONE—

Call	Total	20	15	10
VK1PM	678	173	505	—
VK2AH	1252	116	797	339
2AOU	997	—	99	—
2JY	89	—	89	—
2XY	72	72	—	—
VK3ALZ	932	131	279	522
3ADW	881	178	221	482
3VF	144	—	—	144
8ARJ	119	30	54	—
VK4DI	554	—	554	—
VK5L	1684	824	297	623
5DK	439	439	—	—
5WO	332	220	112	—
5AB	180	60	120	—
VK6 NIL				
VK7PM	802	317	485	—
7WA	435	30	405	—
7AB	182	—	177	15
VK9DB	3083	406	1053	1622

Band Leaders (Phone)—

All Bands—VK9DB	3083 pts.
20 mx—VK2AOU	898 pts.
15 mx—VK9DB	1053 pts.
10 mx—VK9DB	1622 pts.

LISTENERS—

VK2—N. L. Dash	1441 pts.
VK3—G. R. Morris	
(WIA-L3017)	1354 pts.
E. W. Trebilcock	
(BERS195)	613 pts.
VK4—C. H. Thorpe	1425 pts.
VK7—R. de Balfour	1172 pts.
VK9—P. Reid (SWL 0101)	216 pts.

NEW ZEALAND

C.W.—	Total	40	20	15	10
Call					
ZLIAH	5518	—	1095	1908	1030
1GX	1694	—	485	638	571
1AMM	1601	—	974	—	627
1TB	846	—	846	—	—
1JG	686	686	—	—	—
1MQ Check Log.					
ZL2GS	3577	30	1058	1341	1148
2PT	2947	—	1180	977	771
2ARL	1741	—	831	709	201
2GX	1104	255	849	—	—
2AGD	758	—	—	758	—
ZL3HI	2088	88	1021	621	360
ZL4CK	2557	57	1894	606	—
4BO	1171	—	—	1171	—

Band Leaders (C.W.)—

All Bands—ZLIAH	5518 pts.
40 mx—ZL1JG	898 pts.
20 mx—ZLIAH	1885 pts.
15 mx—ZLIAH	1903 pts.
10 mx—ZLIAH	1630 pts.

PHONE—

Call	Total	20	15	10
ZL1MQ	1508	431	642	435
ZL2AJB	1734	193	1150	391
2GX	162	162	—	—
ZL3 NIL				
ZL4 NIL				

Band Leaders (Phone)—

All Bands—ZL2AJB	1734 pts.
20 mx—ZL1MQ	431 pts.
15 mx—ZL2AJB	1150 pts.
10 mx—ZL1MQ	435 pts.

LISTENERS—

ZL141—B. D. Thomson	2344 pts.
ZL111—C. N. Arvidson	831 pts.
ZL302—J. B. Holder	1976 pts.
ZL304—R. W. Gray	1048 pts.

OVERSEAS

North America

Pts.	1	W8LDD	Pts.
VE3ADV	4	W8ATO	4448
W1PPN	4	K8DDO	998
W3WZ	2945	W8AFI	576
W2EQS	1250	K6LOM	371
K2GMO	200	K6HHM	84
W2GJD	190	W6CLZ	56
W2BOT	180	W7SFA	40
W2KKT	35	W7TML	5421
W3VKD	4128	W8JIN	1684
W4LZF	2374	W8QXN Check	5031
W4KVK	525	W0JMB	144
W4LHT	563	W0JYJ	1
W5DF	1650	Multi. Op.—	
W5ZWR	77	K6CJQ	2550

South America

PY1AD	1224	LU6DJX	144
PY1HQ	171	YV5DE	54
PY4AO	9	CE3AG	3094
LU7AS	198		

Europe

OH4NT	874	ON4PA	1350
OH3RA	322	ON4AU	800
OH2KK	218	F8MS	120
OH1TI	99	F8YZ	80
OH3UN	154	F8DW	35
OH3OD	35	F3II	2
OH2KE	16	PA0VB	266
OH2VZ	4	PA0VO	150
HG8QU	735	PA0ZL	42
HB9MO	640	PA0RL Check	
HB9MU	398	DL1DX	2400

DJ1BZ	1580	SM5LL	581
DL1QT	897	SM3AKW	380
DJ2BW	512	SM4BEC	240
DL1OW	56	SM3AU	180
DL1YA	30	SM3GJ	58
DL1SH	4	LA1WF	66
GR1	2890	LA4K	23
G6XL	1590	LA3DB	10
G2DC	1266	LA1K (2 op.)	252
G8AID	570	EDF	10
GRWQ	60	OY7ML	4
G8KAA	24	HA5KAG	36
G8WP	1	OK2KBE	36
OZ3FL	1200	YO3RD	384
OZ1W	725	YO3LM	20
OZ7SN	72	ZB1HKO	48
OZ7BG	45	CT1UQ	4
OZ4IM	25	EA2CR	30

U.S.S.R.

UA3KBA	25		
		Asia	
JA3BB	1980	JATAD	117
JA1VX	1323	JATAZ	35
JA1ACA	1248	ODSLK	120
JA1CI	704	VU2HF	234
JA5AI	284	VS1GV	249
JA3BG	190	487MR	16

Africa

FA9VN	608	ZS5U	1056
CR7BS	35	ZS4MG	168

PHONE—

Pts.	1159	DL1DX	Pts.
OH5PE	722	DJ2YL	277
OH2OV	150	G8TR	200
OH3RA Check		OZ3SK	546
HB9MU	35	LA5YE	1
HB9PU	30	SM5LL	528
ON4DH	126	CT1PK	20
DL1UX	880	HTDJ	234
DL1KB	848		110

South America

CX2AY	36	ZP5CG	312
CE3DY	780	ZP5JP	273

North America

KL7RZ	28	W7SFA	1060
HR1EZ	43	WB3IN	836
CO2OZ	280	W8XFK	380
K8EUD	672	K9ALD	9
W3VKD	1200	W8KRL	
W5ZWR	28	W0GEK	153
K6LOM	40		

Africa

VQ4ERR	70	VR2BZ	361
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Asia

KA2FQ	924	JA1CO	1
JA3BB	42	VS2DQ	1236

LISTENERS—

Europe			
BR520206			1512 pts.
BR515822			1199 pts.
BR519107			616 pts.
N. S. Beckett			231 pts.
YO2-478			108 pts.
NL 884			36 pts.
SM5-2735			680 pts.
OE9-514			96 pts.
Germany			
Kradepohl			120 pts.
BERS029			42 pts.
U.S.A.			
Ben Adams			260 pts.
Japan			
Yamaguchi			2106 pts.

RADIOTRON TELEVISION VALVE SERIES

The two most important requirements of the r-f amplifier of a TV receiver are high gain and low noise. High gain is necessary to provide good sensitivity and to ensure that at the converter grid the signal is large compared with the noise voltage. Low noise is important since under weak signal conditions the noise contributed by the stage may have the same amplitude as that of the signal.

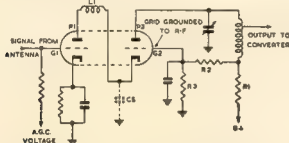
In addition the r-f amplifying valve should have:

- high input resistance to allow the antenna-to-grid matching circuit to step-up the impedance, and thus the voltage, from antenna to grid;
- low coupling between input and output circuit, to give both low oscillator radiation and good stability;
- suitability for a.g.c. application, i.e. should be capable of having its gain varied over a wide range by the a.g.c. voltage with as little disturbance as possible to input impedance or circuit tuning;
- small cross-modulation factor to avoid "sound on vision" or "vision on sound" effects and also to avoid interference by a strong adjacent carrier.

To obtain a low noise level it is not desirable to use a pentode because the random division of current between plate and screen results in a substantial increase of noise over that occurring in a triode.

A conventional triode amplifier however has the disadvantage of high coupling between input and output circuits which seriously limits the maximum stable gain and gives poor suppression of oscillator radiation.

The advantages of both triode and pentode are nevertheless obtainable in the "cascode" circuit which uses a high performance twin triode in a driven grounded-grid arrangement of which the simplified circuit below is one example.



L1 is series resonant with C1 at frequencies above 220 Mc/s to produce low impedance between plate P1 and earth and hence reduce plate-to-grid feedback.
R1, R2 and R3 are adjusted to provide appropriate variation in bias on G2 as signal input and a.g.c. to G1 vary. C2 is the stray capacity between cathode and earth.

The overall gain obtained in such a circuit is higher than that of a pentode, particularly at the 200 Mc/s end of the TV band because amplification is obtained from the two series-connected triodes and it is accompanied by the characteristically low noise of the triode. Good a.g.c. and cross-modulation are obtained with the circuit because as the a.g.c. voltage is applied to the grid of the first triode its plate voltage rises, thus increasing the bias necessary to cut-off its plate current, and at the same time, depending on the point to which the second grid is connected, increases the bias on the second triode. The overall effect of the a.g.c. voltage therefore is to make the cut-off characteristic of the 1st triode more remote and to obtain some control from the 2nd triode thus giving a smooth and effective a.g.c. action and freedom from cross-modulation effects. The circuit also allows very little oscillator radiation back through the r-f amplifier.

The Radiotron 6BQ7A has been designed for use in cascode circuits such as that described and has special shielding to produce low capacitive coupling between each half of the valve which this circuit requires. The valve also has a high ratio of gm to input-plus-output capacitance and to plate current, both of which are required for high gain and low noise.

For further information on the 6BQ7A and other Radiotron Television Valves consult the Radiotron TV1 Booklet. Additional copies are available free and post free on request.



6BQ7A

SOCKET CONNECTIONS



(bottom view)

- Pin 1 — Plate of Unit No. 2.
- Pin 2 — Grid of Unit No. 2.
- Pin 3 — Cathode of Unit No. 2.
- Pin 4 — Heater
- Pin 5 — Heater
- Pin 6 — Plate of Unit No. 1.
- Pin 7 — Grid of Unit No. 1.
- Pin 8 — Cathode of Unit No. 1.
- Pin 9 — Internal Shoe



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VC4/57.

FIFTY-THREE MEGACYCLES AND ABOVE

NEW SOUTH WALES

On Sunday, 24th March, VKSWI was silent at the weekly broadcast time of 1330 hours, until about 1445 hours, due to the absence of John ZATO who had gone bush, the Group's President, and was absent from the air and gave the broadcast in the usual 2VU style. Heard that 2VU is putting a good signal into Sydney and has regular contact with EZAO. On Thursday at 2300 hours from Singleton, Hugo ZWH, of Forbes, now has his 31 element beam re-erected. Ross ZPH, of Turleigh Park, is working on the air. At the general meeting of the Institute on 22nd March their members were again visited by the V.H.F. and T.V. Group when they gave a lecture on the comparison of v.h.f. gear with s.f. gear on the transmitting side. Bob ZOJ also presented his mobile gear for display.

A committee consisting of VKS ZER, ZANF, and ZEDB has been formed to assist the Sydney Amateur Astronomers in their work during this International Geophysical Year, particularly in regard to providing the necessary equipment and radio warning prior to the approach of the satellite which is to be released this year from Florida carrying a transmitter controlled by frequency of the V.H.F. The Group's April meeting (5th) Phil ZER outlined some of the work to be done by 2 mx Hams for I.G.Y. with the hope of being pleased to learn from anyone who is interested in taking part.

3APM was the fox for the night hidden to hunt him on 27th March. Starters for the event were VKS ZANF, ZEDB, ZOJ, ZAWZ, ZZCF, and ZHXL, who were also assisted by other Hams, several VKX and VKYs. The excitement was held until only one and one-half minutes before time had expired when Bob ZOJ located the fox; Jim ZEDB was lucky enough to arrive above the noise minutes after announcement of location which was on a plateau near Deadman's Creek.

The next hidden to hunt, which was scheduled for 31st March, was the second one. It may be that when Bob ZOJ will become the fox for that event, which will also start from Ashfield Park, west side.

ZANU "received" Ken from his horse, and understood Ken is now well on the way to recovery. Ted ZXX has reported reception of Melbourne T.V. station HSVI at his place. The V.H.F. Group will meet on 1st March. Haven't heard much of him since.

A progressive hide and seek fox hunt will be held commencing at 1300 hours at Ashfield Park and ending at 1400 hours on Sunday, 5th May. Be in it, it's fun!

The Autumn Field Day held on 31st March was well attended and the following stations went mobile for the day at 2000 hours: VKS ZIO, ZANF, ZOJ, ZYM, ZZCF, ZZCF, ZAFM, and ZHXL. It has been estimated that about 45 city, portable, and country stations were in the field including north, south and west areas.

Visitors are always welcome to the Group's meetings which take place on the 1st Friday of each month. On Friday 1st April, attendance was recorded of the following visitors: VKS IARG, ZBQ, ZCB, ZHT and ZGAW—21 3APM.

VICTORIA

There was a very excellent attendance of approximately 40 at the March v.h.f. meeting to hear the lecture given by Les ZEN, ex-ZEDB, who is a Consultant for the "Electric Band." Les travelled down from Ballarat to give the lecture and brought with him his own home-built 1 m. equipment. Other speakers included Brian ZBDS, Ian ZZCF and Floyd Hoffman (WVFPD). Les gave a very interesting lecture amply illustrated with blackboard diagrams of circuitry, and a number of the members took advantage of by copying down for future reference. Les then gave a working demonstration of the equipment and showed most conclusively the superiority of 1 m. reception over a.m.

A lengthy discussion took place on the running of fox hunts in the future and several suggestions were put forward, one of which is that the competitors will all take turns at being fox and will each make the rules for the next hunt. The next fox hunt meeting in about 12 months time, a further discussion will be held to decide which ideas have proved the most successful. In April, in May the fox will be Tom ZAOG, in June ZAOJ, July, Jacques ZKEE, August, Roy ZARY, and September, Tom ZEN. The next fox hunt night will arrange the final location either at his own home or the home of an Amateur

friend, or if neither of these channels are available, the final location will be held at the home of Len ZLN.

The upper arrangements will be as before, everybody bringing their own thermos of tea and small plate of cake. This has always worked out very well and saves the trouble of providing supper for a large crowd by the XVLA concerned.

Ted ZAEH down at Geelong, has been busy during the past few months building a television rx and is starting to get satisfactory results. He only has the small 5 inch screen, but is getting a good picture. You've got to be an expert to get the real DX on 2 m. Ben ZRK has a sked each morning at 7 a.m. with ZSAM, whose frequency is 144.4 Mc. and manages to make a contact with him most mornings. He also has contacts with ZPC at that unearthly hour too and usually the signals are 50 plus both ways. Ian ZALZ is another one who is capturing the real DX, Ian prefers to work late into the night. Ian's conquests include ZSAM, SOJ, ZSAG and ZBS. Ian also works quite a bit on 1 m. His latest contact is with ZHXL, a distance of approximately 30 miles.

Melbourne Amateurs should keep a watch out for the Ballarat boys as there is someone on from Ballarat every night looking for Melbourne contacts. The last time he was heard was every night between 8 and 8.30 p.m. beaming towards Melbourne. Peter ZPDP in Sale has been working on 2 m. and has been making another one to look for. Philip ZGAW was heard working portably round the streets of Melbourne on his way through to Sydney. Tom ZAGX a visitor of interest recently in Ballarat.

The office-bearers for the V.H.F. Group have been re-elected for another term. They are President, Herb ZJO, and Secretary, Bob ZOJ.

An interesting item of news has been received from the V.H.F. Group of Ballarat. He tells us that a friend of his, an electronics engineer, a Mr. A. Jackson, of Invercargill, South Island of New Zealand, has received a very good signal from ABVZ, Sydney, and ABVZ in Melbourne, and has been able to photograph very clearly the reception of ABVZ. He has noted the same station in identical conditions and reception of both picture and sound lasted for the whole evening. Personalities were clearly recognizable. Mr. Palmer has received a very good signal from ABVZ by Mr. Jackson and which his states are very excellent. The air-line distance between ABVZ and Invercargill is in the vicinity of 1,000 miles.

The March V.H.F. Field Day was very successful, on the 2 m. band there were at least 9 stations out portable and 6 portable stations operating on the 1 m. band. Many good contacts were made on the 2 m. band which included some with the VKEs. David ZQAQ reports that at least 15 stations were operating on the 2 m. band counting the one station that David has now replaced the feedline to his beam which is 5 ft. lower than originally and he is receiving a very good signal from the broadcasts on 283.4 Mc. He is using horizontal polarisation and the beam is usually north-west, and he would appreciate reports on these transmissions.

The results of the Field Day are as follows: 1st, Reg ZEAD, with 3,006 pts. including bonus points for the three longest contacts on 2 m. with SOJ 288 miles, ZSAM 285 miles, and ZBN 285 miles. Second was Ray ZSAM with 1,448 pts. which included 121 bonus points for the three longest contacts on 1 m.—Phyl Moncur.

SOUTH AUSTRALIA

News to hand that the matter of publishing predictions charts to incorporate frequencies higher than 28 Mc. will be considered, this information is available from the service but is not in "A.R. News" as yet. The service has pressed chaps for it will be useful. (The Prediction Service has been requested to include higher frequencies on the chart. Am awaiting reply.)

Had a wire from David ZSAM on March 30 advising team. Inversion ideal that day for contacts between him and Remark at 9 plus, and given time he would be beaming north. Sorry that we were not able to make a contact though we identified and heard your carrier. We could not get any modulation from it. Many thanks from the parent group for the news this way. Had you been on a.b. we could have made it.

Talking about a.s.b. on 1 m. contacted WYWH by letter, not 3 m. who had given "CQ" some information on this subject and he was keen enough to write at great length and give full details of how he did it and what advantages a.s.b. provided on v.h.f. He had two identical tx's finishing with 450B in final, both using same power supply and antenna. He was getting 100 miles with the spiders have the a.m. job. He states that a.s.b. has provided a means of holding constant skeds over 100 miles since March 1956 right through the year.

Intend to give this a go from here some time. I pass it on, in the meantime if anyone is interested will be pleased to hand on the main points.

A couple of extras frequencies to add to last month's list: Leo ZSAG 144.53 Mc, Gordon ZXTU 144.128 Mc.

Leo ZSAG is building a new modulator to fill that envelope and then intends proceeding with matching final to complete the issue. Dave ZSAM made the grade with Col ZRO and with ZEAD at distance of 280 miles. Good work. I play the weather map wouldn't stay still for a week or so.

Col SOJ mainly on 2 m. three days and getting about. Allen ZAEJ paid the Mount a visit recently and looked the boys over. A week or so ago Keith ZMT and Col ZRO set out to make gear at Mount Lofty and were successful. A 3 el. beam was used from Keith's mobile tx and by using his home converter was able to work Dave ZSAM at Pindola, MSA 1270 miles, Ern ZSC, Hughie ZBC, and ZCS. They heard a number of other frequencies but didn't identify them. The time spent was from 1500 to 2000 hours, a really successful show.

By the time you read this Bill ZEAX will have his "Xmas tree" finished, in that a GAZU is going to top the 90 ft. tower, thence 19 el. co-linear on 2 m. and topped by 21 el. beam on 2 m. that will be 85 ft. up. That will really look something and should be the centre of some real smart signals on 2 and 1 m. Good luck Bill, am anxious to hear of it.

Had a few letters from Reg with his phase meter. He has been working on it and he has got down to a balance where there is little difference between it and his former a.m. Of course certain adjustments of clipping will be required, but I don't doubt he'll get it that way.

Ray ZEBM continues to get through the 35 miles to here 3 x 8 with a 456 final! If he has a 3000 ohm variable capacitor he can work at the same frequency, it will really be worth hearing.

Eric ZSAQ, a newcomer to the band, puts out quite a hefty signal on 8 m. haven't found out about his gear yet. John ZBZA is setting out on 2 m. with a 323 to 12 el. beam modulated 800+ p.p.s. for rx a SGL converter into ARI. His outfit is a 1000 ohm variable capacitor and other frequencies, mixing his own modulation at the same time.

It's possible you will have heard his first outfit working as v.h.f. link to the Exhibition. At the time of writing the v.h.f. links are not working due to a very bad storm, but I hope they will be in use before the first week is out, for although they are doing a lot of good work, it is necessary to use the links for 14 Mc. DX. The local noise level being terrific on all signals below about 87 to 88.

Haven't heard Ken ZEN lately, presume he is busy folding "sector diagrams". Don't let it get you down.

REPORTS OF LONG-DISTANCE T.V. RECEPTION REQUESTED

Norm Burton (T.V. DX fame) would be very pleased to receive reports of any long-distance t.v. reception in Australia, and offers to gather and correlate them over the I.G.Y. Information he requests is on reception at greater distances than 200 miles, and should state: Time, date, whether sound or vision signals (or both), details of station heard, frequency, etc.

Write to Norm Burton at 43 Beaconsfield Street, Resvay, N.S.W.

DX ACTIVITY BY VK2OL†

PROPAGATION

I do not like the principle of changing anything when doing a job as a relief. However, Hans used to gather a lot of information for a project he was on from our propagation reports and until he resumes these notes, unless you desire otherwise, I do not propose to continue the propagation report in the form he had. The prediction charts are available, and unless the DX fraternity find that there is a big variation at any particular period, no comment will be made on propagation.

But if you notice something outstanding, or off prediction in conjunction with the WWV/WWVH broadcasts by all means let me have it for inclusion. For the WVE Contest there was quite a variation on 7 Mc. between the two week-ends. 3.5 Mc. was almost useless, which is understandable during a high m.u.f.

NEWS AND NOTES

VP5BH, Cayman Is., was in operation for approx. a week-end and has now closed again as the W operators have returned home.

VF8BK is on South Georgia (2ACX).
VF8BU and LU3ZM are on the Orkneys (2ACX).

SV0WD is W4WUL and located in Crete (2ACX).

SV0WO is located in Rhodes (2ACX)

VP2VG was operating from the British section of the Virgin Is., but has now closed. At the present time he is not counted as a separate country by the A.R.R.L. The W.I.A. opinion is not known, but as we follow the A.R.R.L. in general principle, the same will probably apply here.

YS10 states he has sent a QSL to all those promised, but I know many VKs who have not received a card. He has a good recording system and can tell the date of despatch, so if you are still waiting, drop him another card and one will be sent in return.

Ex-ST2NG is now **V89AG** in Aden and looking for VK contacts with his old regulars (2AIR).

JA phones operating in the "cw" section of the 7 Mc. band are becoming quite a problem. They are strong from not long after dusk, and it is hard to get a clear spot for a DX c.w. QSO

For those interested in YL QSOs, **KW8CM** will provide another country.

There seems to be increasing commercial activity on 21 Mc.

LX1DC is looking for VK contacts
on 21 Mc.

The "nefarious art of swishing the transmitter over the band has become very prevalent of late. Much of it can be traced to the Russian stations, but it happens when the band is not open to the U.S.S.R.

QIN₂ OF INTEREST

VPRBN QSL via W4KXV.
HLJAC QSL via K.A.R.L., Box 1072, Seoul.
HUBBE C/o U.S. Embassy, Ciudad, Trujillo.
VUSAB QSL via VU2AX.
C1KAA QSL via Box 88, Moscow.
VP2VG QSL via KV4BB.
VQ3PN Box 313, Nairobi (1AIR).
CNAZE Box 57, B.P.O. Tangier (BERSING).
SAITY-AP031 New York.
LX1DC Rte Betty Weber 25, Zach/Alstlt
(Rod De Balfours).
VSBAG Aden Airways, Aden (1AIR).

ACTIVITIES

3.5 Mc. 2GW: W*, DUTSV* 2QL: W*, YU,
JA, DU

7 Mc 241R- VK9AD* (Norfolk on 2 watts),
OQ5RU- ZBICP, SPIKAA, ZAMB IIUV*,
ZIMBX OQ5RU- VK0AB*, FKABL ZC3PM,
DUGSV 201 ZF1JV, VK0AB, ZE4JM, ZE-
2JO, ZS, UA3, YU LU3VW CA4FT, PY2BON
HL3GP, JA. BERSHS DU1UP, JA. K1L, KP-
4LDS OKJAL, UA3VB. Red de Balfout V,
VE4RO KH6JA, all 2 Mc. Dave Jenkin, W1A-
1L303 W

14 We C 2ACK: 5V5WD: VPSBK: VQ-
FBU: VPVZG: VPSBH: 2AIR Z15: VQ-
ELQ: FATTZ: 3W5AA: KWC6C: CK3AA: A-
CO: CO5W: ZK3AB: HIRBF: VPFEL: L-
ZC3AL: CR3AA: 2AMB PGTXC: CX3BO: V-
VR3B: VPSBH: OQSRU: FSTRT: CBA3C: V-
VR3B: ZC3UC: UIRAC: VKGAB: L2-
CRA3H 2Q1: ULTKAA: ULTKBA: VPBC3: V-
VPSBH: VPVZG: FSTRT: VKGAB: VQAGR: V-
H3C3A: YS3IO: UIRAC: QG3AB: E3AAW: L-
UDDDD: UQ3KAA: UQ6KAA: VUSAB: KG3AA: A-
CK3AA: UQ3AB: KC4USN: HARE: PYD3BF: V-
S17B: VPVZG: Z32LS: VR3B: KRAAG: Z-
FSTRT: 3BK: FK3AB: VE3KG: ILZ: UAF3F: V-
VR3B: VPVZG: OAF3B: LUD3O: LUR3O: V-
GAB: CX3DE: FB3EZ: 2ABN: IS3ARK: IS3AM: L-
JZ3PC: KMA3K: QAF3N: OQSRU: TP3AB: V-
ZB3IC: ZC3SF: ZK3JA: Z13AA: W1A-LND: V-
PY4AO: PY3CU: VPVZG: LUB3AJ: UAI: UAI: V-
S17B: 2E3R: R44: B43LF: SM: G: AP3ER: V-
S17B: 2E3R: R44: B43LF: SM: G: AP3ER: V-

14 Me. 6 LAMB: HIBBER, KNUD, XE-
ZCZ*, DJ*, QGSH*, ZS*, LAHT*, ALAA*,
QAAI*, YVHA*, UNICA*, COFOZ*, HCKRU
CNAB, BAB KCSP*, HZIAR*, PJMC*,
HBBK*, FUCFC*, EXABL*, SWBAC*, CO-
JFK*, SP7HX*, DL4AH*, RM*, KG4AA*, Europe
and Alaska, 100% QSO, TL, COFOZ*,
Red de Balnear has large list of
members are MIB SVQDU, UCZBAK, AXADN, OD-
BN*, LAUKUN, CNEMH, SVRAS, SAITI*, SA-
LAK*, CREAQ, ZS VQZDA VQDOT, VQAQO, FBSEZ,
ALAZA, HZIAB, XZKN, VSAT, HLJAF, JO-
3PL, VP1EK, VPRBU, VPSEM, FMTPW, HURRY
YSIMS, ZLAAG and on a.k.b. KCVUSY, HZIAB,
many of the trans-
mitting have very large

31 M^c CW 2AMB VQSLQ* (1000z), CN-
8FJ*, 4X4FO [REDACTED] Europe. 2QL: EA*
ZC4IP*, JZ, 3WAAA JA, KH8. IARI: Western
Europe* YUDDF*, YU2EH*, EA3CB*, E12HVN

UADKPG. ILE: UADFR. SM:
21 Me. A.M. - SAB JZOPC*, ZC4IP*, 4X4BL*,
OH3AA* QZ: VS4JT*, VERAH*, KR8QN*, ZS-
5MP* IL: JZOPB*, G*. Rod's best: VQ4DT
4X4DT JZOPC JZOPB, VS4BO, VS4JT, VP-
1EX, T12RC, T14AO, TORMW, NPSFL, ZS,
457, XZROM. KV: KP:

18 Me. 101. V56, CR5AL, BV1US, JZ5PC,
ZD5DT, JA, Europe, W*, VE*, 5AB: FK5AC*,
1LZ OH* JA*, ZS*, VE* W* Red lists W,
VE, YN1HF XE1BW, COZOS, TO1JW, Z55JJ,
VQ4ERR, T1EIV, DU JA, CN5AK.

Q8Ls received by the following were--EACK
Z8BP 141R: KGICA, ZC3AL, BV1US, KW-
8CM, CX3CO, 487PT, VQ3FN, VQ6LO, VK-
BAD, 14MB, Z8SDZ, Z8SRE, Z8SND, Z8SFP,
CT3AN, 58K, LUSAQ, VOKL, VU2AC, 49-
1J, 1LZ, GM3CUV, CE2DZ, CE3AJ, PY1AWL,
LU2AJ, Z8SAT, GW3FP, Z8SU, 58S186,
CN2AE, CX2CO, HAK5BF, H18WL, VQ6GC,
VR1DA, Z8DGT, 4X4FA, 5A2FB, Rad de Bal-
four, J26PA, FK4AS, XE1VW, LX1DC, Z8DGT,
ZOL, KG4AN.

My thanks to VKs 2ACK 2AIR, 2AMB, 2RX, QSP 2BY, 2UR, and 2WPI, Rod de Balfour QSP 2LZ, 2BHSB and Dave Jenkins. We rarely see a contribution from VKs. VKs or foreign area in this column. I know, as do others, what move round VK, that there is quite a difference in what each other can hear, so what about somebody dropping a note, no matter how rough it may be. I will sort it out. If you don't feel the urge to write give me a call towards the end of each month with what you hear.

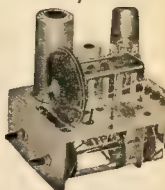
I had a ring from Hans on his way through Mascot and he hopes to be back with us again in approx. 12 months.

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WEDNESDAY

CONFERENCES, 1966

The Second Triennial Conference of I.A.R.U. members in Region I was held in Stresa, Italy, on June 13-16. H. Laett, FBSGA, was chosen as chairman of the Executive Committee for the next three years, with Arthur Milne, GEMM, continuing as Secretary and Jacques Rimmonet, FBDW, elected as Treasurer.

DX ACTIVITY REPORT FROM I.A.R.U.

I.A.U. TELLS OF GAMES RELAY

I.A.F.U. TELLS OF GAMERS RELAY

"The Technical Division of the Wireless Institute of Australia and the Attica Amateur Radio Club of Athens, Greece, arranged for the transmission of a radio message, broadcast on the occasion of the Sixteenth Olympiad on November 17 a message was originated by SVSU near the site of the ancient games to KTEL near Mount Olympus, Greece, and forwarded to the Games Committee in Melbourne. Amateur in many other countries assisted with the special approval of their governments, by helping the message to be received and the following misleading words in the text. A return message also was successful. The whole show went off quite smoothly to the great credit of Radio Amateurs and demonstrated the fine character of the amateur of the spirit of friendship."

R. S. G. B. LUNCHEON CLUB

In another part of the magazine will be found details of the time and place of meeting of the very popular R.S.G.B. London Members' Luncheon Club. The Hon. Secretary, Mr. Frank Roberts, DX 100, writes: "The Club has issued the special Executive offering to members a cordial invitation to be present at these gatherings when they are in London. Executives is truly grateful for this offer of hospitality and is sure that when members are travelling abroad they will avail themselves of same. Frank reports that of the 30 visitors they have entertained last year, several were from V.K. and that they were very much enjoyed and hope to feast their DX C.C."

FEDERAL OSL BUREAU

Another one for the certificate hunters. Worked Liverpool Awa (W.L.A.). This award is sponsored by the Liverpool and District Amateur Radio Society and consists of four parts or grades, c.w., phone or a combination of both may be used and a minimum signal strength of three and a half dB. All contacts claimed must be subsequent to 31st December 1953. The grade applicable to Australia is Grade 1 and requires proof of contact with five (5) different stations. Applications, together with the five QSL cards and six international reply coupons, must be sent to GIBERN, "Move To," Sandy Lane, Kildowen, near Liverpool, England. The award is similar to above.

KP4AIO, Jules, who will be better remembered as VPWBM for four years, advises that one ME who missed out on a VPWBM said

Joe WGEFK is now WGEFK/KL7 on Shemya Island in the Aleutian chain and expects to be there some months, whilst Don W0KLD is now W0KLD/KL7 on the arctic coast of Alaska. Denny VERNE said he was on the Canadian warship Bonaventure near Plymouth. Tom KEINI is ex-TISTG. (Thanks Austine)

Melbourne Hams were pleased to meet W3ZMH (Alan) and W9RHL (John), both officers on the USN Dehaven which in company with three other destroyers visited Melbourne at the end of March to early April. Both visitors attended the annual meeting of the Victorian Division and were interested in the conduct of business and the wide range of subjects listed for discussion.

In a long letter to writers from Davis, Vestfold Hills, Princess Elizabeth Land, under date of 12th February, Chas VK8AB (ex-VK1AC, VK2AC) writes that he has much to say about details of the set-up down south. Says the personnel consists of only five men, mainly for the purpose of carrying out a series of certain amount of auroral, exploratory and geological studies. Another purpose is to provide another link in the chain of stations turning the radio beam from the South Pole to a unit 400 miles east of Mawson and 370 miles west of the Russians at Mirny. The locale is a little over 100 miles from the coast, and the ice is in extent. At either end the coastline ends abruptly in icefields of the continental shelf. The view is of a wide, flat, featureless landscape, magnificent scenes of glistening bergs of all shapes and sizes and states that the total absence of any form of life or of even the lowly lichens is a feature that is not easily comparable in vividness by comparison. The antenna erected is a horizontal yee with 200 feet per leg and is supported by a 100 foot mast. It is 15 ft in height and is directed on Perth Radio. As it is uninterupted its major back lobe hits the continent and is reflected back to the birds with one slant. It is of course cut for the commercial frequencies used, but exhibits good radiation properties on the Amateur bands.

At late of writing Chas. could only operate on Ham bands for a few hours each evening -1400-1800- which makes it rather late for the night time DX'ing. The only way that the station is open long path to USA and the WGR1 is terrific. Chas. is using a Collins AR713 autotune transmitter running 80 watts. When nights set in Chas. will appear at times more convenient to VK. He still uses the old Hallcrafters 6028 receiver which has given him many a good night's sleep. He is not able to hear any signals below 5 Mc., but expects to be able to use 80 mc during the winter. He plans activity on 30-40-30-15 mc bands, but will be able to hear signals on 15 mc bands after settling in there was a radio blackout- nothing heard over the entire spectrum for three days, a few weak signals only on the 15 mc band. He will be working with a team soon on the fifth day. Chas. managed a contact with VK8JA at Dawson on 5th February and managed the hour on the 1st Antarctic VK1 to VK8JA at the Antarctic. He is now

As advised earlier, Bill VK3EO will be handling QSL activities for Chas. QSLs will be sent on a receipt basis and will go via Bureau unless accompanied by L.R.C. C.W. will be the main means of contact but Chas. will use phone if required.

Dave Devise, CN3AX (ex-3K1DS and GW-3AN) advises he has worked quite a few VK stations, mainly VK6s, but up to time of writing had not received any cards. As he is a minded man he could appreciate a response. QTH is Rev. St. N.P.O. Dunfer.

—Ray Jones, VK2BJ, Manager

CHANGE OF ADDRESS

W.I.A. members are requested to promptly notify any change of address to their Divisional Secretary, not direct to "Amateur Radio."

NEW SOUTH WALES

THE UNIVERSITY OF CHICAGO

The Annual General Meeting of the Hunter Branch was held on 8th March at the University of Technology, Tishie Hall, with 13 members in attendance. The Secretary, Charlie RAY, read the annual report in which our lecturers for the year were shown as 2ANU, 2KG, 2VU, 2CS, 2ADS, 2MC 2FX 3AFX, J McEay and W. Snaddon.

The Social Secretary's report was given by Gordon Sutherland and Bill 2XT delivered the President's report. It was announced that the L.R.E. had invited any branch member interested to a lecture on "Thermostatic Control" on the following Friday night.

Ron Bishop, a visitor to the district, gave a talk on his experiences while operating his Ham station in Ghana.

State President, Jim Corbin, addressed the meeting and then took the chair to conduct the election of officers of the Hunter Branch for the ensuing 12 months. The results of the election were as follows: Branch President, Colonel MCS Vice-President, Steven Murnum, Secretary, Charles 2ARV, Treasurer, Bill 2AR, Social Secretary, Gordon Sutherland, Social Treasurer, Bob Bailey, and Zone Correspondent, Les 2AOR.

During the month quite a few of the boys have been active and one or two due to D.V.L. fell silent. Ken EKO has been holidaying in the States and will be back in the c.w. on 46 mx from his "blucuttin" tx. John EKO doing well on 18 mx as well as 40 and 46. He has been working on 40 and also acquired another transmitter as from W. Sand. Local 18 mx champ is Jim 2AHT Jim. He has been working on 18, 40 and 46 around 1100 GMT. He hopes to be on 40 soon as he gets his beams up on 30, 15 and 10 mx. With 18 mx opening up, that "wizard of Waverley" is back on 18. He has been working on 18, 40 and 46. Harold TAMA has been working on 2A3's gear and Ron is now having fun and excellent results on 18, 40 and 46. The 18 mx champ is 2A3. 40 and 46 mx phone will watch the electric

At Maitland, Vice ZAPK has been active on 40 mhz, but Bill TAMM is still the top performer. Harry keeps Hamilton on the air with his 30 mhz battery. Harry ZAPA has been picking up some DX on 30 mhz. Bob ZAGR and Bill SZL are trying to cut-tail each other on 40 mhz. Bob ZAGR is also v.i., permitting Dave BZB to pick up some DX on 30 mhz. Bill ZAG is still sticking to 3 and 5 mhz. Bill ZAG is also v.i. The gang in Sydney: George ZAGD only on 40 mhz. Monday night hook up Charlie ZARV seems to be chasing the W.A.J. award and is going well. ZADK is on holidays in New Zealand. Bill ZAG is beating Bill ZXT: Type 3 under 1000. Bill ZAG.

Next meeting of the Hunter Branch will be held on 10th May at 8 p.m. at the University of Technology, Newcastle.

UPPER MUNKS GROUP

During the month of March I can personally account for all members of our small group that is having met time in person with me. I was able to see them all and assured your scribe by a visit or vice versa and to forget a visit from Bruce ZIAD, who is now in the States. I met Jack the URC, of Denman, is active again and will be looking for contacts. His absence has been about four to five weeks and a hitch over this block of time which was a surprise. The SGV heard on 40 mhz with a good signal from the No. 11 set. You must get on 80 mhz and away with the broadcasting business and assure me that he is still very keen. Geoff has been working on the 700 to 8 mhz and having strife neutralizing the SWL to ensure you that they have caps on and not the sort you may think they are his. Geoff had a good time on the 100 mhz and the Point Lookout, steady signals both in the 2.5 to 3.0 mhz. Good contacts were made with other party stations.

VICTORIA

Another Annual Meeting has come and gone, a new Council and office-bearers have been elected and a very fine President has retired after five years of sterling service to the VEC Division. I will remember when Gordon ZTF was elected, he regarded it not so much as a job to be done, but that a very great honour had been bestowed upon him and right through his term of office he worked with that thought, giving of his very best to further the advancement of the Division. His calmness in dealing with awkward situations and sometimes tense members was a tonic to all who worked with him. A job well done Gordon, and we are glad to see you are a member of the new Council and taking an interest in the Divisional affairs still.

The new Council is as follows: Fred ZYS (President), Gordon ZTF, Jim ZNY, Bert ZHZ, Jay ZIL, Alan ZAEI, David ZADW, Ken ZAFZ, George ZWJ and Len ZALD.

The following are the office-bearers for the coming year: President, F. Ead (ZYS), Vice-Presidents, G. Dennis (ZTF) and L. Robinson (ZALD); Hon. Secretary, J. Lancaster (ZIL), Assistant Hon. Secretary, G. Robertson (ZWJ).

Hon. Treasurer, J. Marsland (ZNY); Contest Committee, H. Hodge (ZHE) and D. Wardlaw (ZADW); Disposal Committee, G. Dennis (ZTF) and B. Bradshaw (ZSK), Qualifications Committee, H. Hodge (ZHE) and K. Vincent (ZAFZ); Communications, A. Elliot (ZAEI); Maintenance, G. Robertson (ZWJ) and A. Elliot (ZAEI); Exhibition, H. Hodge (ZHE), N.V. Advisory Committee, L. Moncur (ZLN).

Following the Annual Meeting a tape recording was played of an interview between a member of the VEC Division and Danny Well of his experiences during his rescue from the "Yankee".

The following visitors were welcomed to the meeting, John Strathman, WHEHL; Alan Pierce, WZGZH; and Bob Reid, a ship's radio operator from Pasadena.

The new members admitted to the Division were Full Members—J. R. White, ZAJW; W. G. Downing, ZGD; P. J. Dittman, Associates—W. R. Hempel, J. P. Neve, and Junior Associates—D. W. Clowes and R. B. Rosen.

Bob ZML made fame recently in a television broadcast over ABC Channel 2, in their hobby programme. Bob with all the polish of a

antenna taken across to the opposite bank then across a paddock, hence very little signal was present at the tx location. Despite this, Alf ZIE did a fine job locating the rig in short time, followed later by Roy ZAEI and Tony ZAOG.

A newcomer noted was Evan ZAAP, who did very well to arrive at the site at about the same time as some of the more experienced hunters. We hope to see Evan with some portable gear at the next hunt, when he looks like being a real danger.

The next tx hunt will be held on Sunday, May 12, when Alf ZIK will be hiding the tx, so come along for a very interesting afternoon's entertainment.

WAVES 1970

Recently our new zone boundaries have been finalised, so we must welcome our new members, and to our former members who are now in the Midland Zone, wish them all the best of luck.

Paid a visit to Jim ZDP recently and had a look over his home-made workshop, which consists of a hydraulic press made out of aircraft landing gear, power hack-saw, drilling machines

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veteran Lt. star, gave a short story of Amateur Radio and demonstrated the transmission and reception of signals on his own equipment. He gave a short CQ call and right back popped Bill ZATW operating mobile at Fernies Gully, well we won't query that but Bill sure had a terse signal. Bob put in a few very nice plugs for Amateur Radio, the W.L.A. and the A.O.C.P. class and presented Amateur Radio to the public in a very commendable fashion.

The next general meeting will be held on May 7 and the lecturer will be Mr. Markham, of the Australian Broadcasting Commission on "Outside Broadcast Television Work." Mr. Markham was recommended to us by Mr. Kempton, of the Royal Melbourne Technical College, and his lecture should be of interest to all.

At the June general meeting the lecturer will be Mr. Alec Brown, who was VK2BA during 1958, and he will deliver a lecture illustrated with a collection of excellent slides. This lecture will cover the wild life of the Antarctic as encountered and photographed during Mr. Brown's stay on Macquarie Island.

In July the lecturer will be Squadron Leader Willie, of the Ground Air Section of the R.A.A.F. His lecture, illustrated with slides, will cover ground to air communications and other angles of R.A.A.F. radio work.

IN THE TRANSMITTER HUNT

Fifty-one persons had an enjoyable outing and picnic beside the Yarra at Henselberg on Sunday, April 7, when Laurie ZALY, ably assisted by Ray Price, hid the tx which was buried almost at the water's edge, and the

and other items to make a well set-up workshop. So besides his radio, Jim has other interests to keep his spare time well occupied. Keith ZAKP has not been on the air much of late but is still putting finishing touches on his new rig. He has had a visit from his colleague, ZGZ from Chatterbox Towers, and together have been paying a visit to other hams in the district. Alan ZHL has erected another leg on his new bandstand and has greatly improved his signal into the States.

Have had news of Chas, ex-ZIB, IAC, and who now is VK2AS situated on Davis in Vestfold Hills, Antarctica. They had to establish this base so, until they got organized. Chas and his mates had some discrepancies to put up with, however they now have comfortable quarters and he is on the DX status. Conditions have not been extra good, but expects things to improve during the winter months, so is looking forward to many calls to the local chas here—ZAKW.

MIDLAND ZONE

On 2nd May a zone hook-up will be inaugurated, the tx stations to initially ZFO. The proposed band will be 7 Mc. at 8 p.m. Please net with ZFO if possible.

As this will be the initial get-together for the new zone all members and non-members are invited to be there, so make it a success with a big gathering.

For information, especially of non-members, the Midland Zone has just been formed and present official activity is nil. This hook-up is to try and decide when and where the first official meeting can be held. Contact either ZND or ZFO for further information.



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PRESIDENT'S ANNUAL REPORT

Junior Chamber at Commerce Display.—The Division, in conjunction with the Junior Chamber of Commerce, staged a very interesting display of a working Amateur Station in the basement of the Brisbane City Hall. Quite a lot of outside interest was shown, so much so that the Division has recently been informed by the Junior Chamber that another such display, this time in the main vestibule of the City Hall, will be held in November, 1937.

To our Federal Councillor, Arthur GAW, many thanks for assistance and information on Federal matters throughout the year.

In conclusion, gentlemen, I would just like to say how pleased I have been to have had the honour of being your Chairman and President. I thank you one and all for your loyal support. I wish the Council for the forthcoming year every success.

TOWNEVILLE

Joe 4WH promised the boys if they get the call sign he will come on 144 Mc. for them with full power to prove it. It is hoped that Graham 4BX will again take over the learners' class for A.O.C.P. quite a few have promised to stay the full distance. Eddie 4WH, our local Secretary, will be in Brisbane by the time this appears and hopes to attend all the meetings and bring back all the news from the big smoke.

The emergency net is at long last taking shape, and following conferences lasting over quite a while with Police, Radio Branch, and E.F.S., a scheme and net has been established.

to operate in emergency when called upon by the authorities to augment official communications. Our net is to work as a means of "Communication" only, to receive and transmit messages from official sources and not to originate messages.

Equipment has been obtained through the Disposal Committee from Government sources and that the 123 and 222 are the most suitable for the job. A number of such are on hand and general members will be advised in due course re their allotment and use. These units, which are for emergency use only, are 18v, 18v input using 100V m.e., v.f.o. or xtal, with 80 p.p.s. plate modulated. P1 output 100 watts, 100 ohm drain, 100 ohm tx in high band, and for rx and tx filaments only 0.8 amp. The low drain being one of their attractive features, the other being ease of setting for both tx and rx are simultaneously tuned.

It is the intention to obtain sufficient of these units to provide each member who is interested in the scheme with a complete outfit, and the nominal cost will be the member's affair—so you will be hearing more about all this in due course.

Message forms have been printed and procedure adopted and a number of field trials and tests conducted to help iron out any bugs that may arise. It is well known that 222 antennas for such use, etc. So far tests indicate a good net should result.

Our working associates, who are doing the class this year, are progressing well. Two of them making the grade at the Jan. exam. It's a bit early at the time of writing to make any indication of the number of the exhibit at the Royal Exhibition, but the gear has been set up and apart from a fault in the v.f.o. which is being dealt with, according to plan. Most of the gear there is from Gordon SXU's shack, which includes 3 b's one on 40, another on 30 and the other on 30 and 30 v.h.f. "talk back" link. The rx is an 8X238 and doing very well whilst working 60 and listening at the site, for with so many noisy stations exhibiting nearby, the police limiter must be working overtime to make it possible to hear anything.

The antenna is a 2L Special on 20 m., a low loss 40 m. and 4 over 4 driven by a skeleton strop on 3 m. A large number of ornate GEL cards supplied by Frank SMZ and Gordon 222 are going the ways and give it a "shack" look.

Joe SJO is going to Melbourne at Easter time—to play cricket above all things—with 15 other members and a few others (not all in place). You all know 10 m. has been hot lately, but you should have heard SWK "tearing them off" recently, 5 x 9 plus all the way. New Don DMJ, have you purchased a new wheel chair or crutches yet? Heard WAF SDY say the other day he had heard "Poor old working working working working" and said Wai, he will catch up to you for that.

And then there is "Wandering Chas." We never know where he will pop up next, Chas Wai, so don't take the call book too seriously fellows for they can't keep up to him. Jim cut was trying out his lat. machine and stated was using a 133 ft. Wyndom with a 25 ft. feed line, the whole assembly 4 ft. above ground. Knowing Jim, he is not a drooping vertical to the tx, can only assume he was operating from the bottom of a 21 ft. hole.

What is Jim? ZSSJV, Salisbury, Southern Rhodesia, is looking for VK contacts on 10 m. Has his been this way from 0500 GMT to 0100 GMT, silver 30 m., and has a good signal here.

The plumb of the month comes from Port Lincoln, where Alf Mack is helping WAF SDP to find anything he can get. He has a good signal here next to Alf asked him "Is there anything else that could interfere with our wireless other than you?"

SOUTH EASTERN DISTRICTS

Our sympathy to Claude SCH in his bereavement. His father passed away late in March.

Erg 6KU has managed 10 new countries on 14 Mc. c.w. He has been fairly active so I discerned. Stewart SMS mainly on 10 and 15 m. and also 1000 and 1500. He has a new 100V m.e. built himself a new modulator, so he's heard it old man. The only other news from that way mostly re v.h.f. which is reported elsewhere.

WESTERN AUSTRALIA

At the Divisional meeting for March, 6RU gave a very interesting and instructive lecture on the WAZZZZ beam, and Mr. Gordon 222 and showed slides of Ceylon and Northern

Australia. He was in charge of the sound recording on the film "Jedda".

In the absence of any new nominations, the existing Council: 6RU, 6PT, 6TP, 6SE, 6MX, 6AG and 6KW, are carrying on.

Mike Lacey, ex-VK6XK, is now in U.S.A. and has the call sign WIDUT.

We were pleased to see Dave WJAP in VK6 again and hope he enjoyed his brief stay and wish him happy landings on the rest of his trip.

Sorry to have so little news this month, but as usual radio takes a back seat during the summer months. The "local" bands are almost deserted temporarily, and even the DX bands have been the best lately over this side. However, there are already signs of increased activity on 80 and 40 m., so I hope to gather more news next month.

TASMANIA

Could be.

The Turk, that two-and-fifty king—

Writes not so tedious a style as this."

But, gentlemen, it is ten years since last I columnised—some will say columnised—in this journal. And it is not true that I peddled my pen for the benefit of the "legitimate" members; the Olympic Relay expedition: a series of good lectures, and not least, a reasonably healthy financial position. In these days of economic depression, it is due also to lively North and North-Western Zones, from which directions a small but welcome party was able to make the trip to Hobart. Col. H.L. carries his years remarkably well!

You'll be happy to hear that more usual things were done in the course of meeting and dinner at the club house. President Ted TPJ reviewed a worthwhile year which has resulted in the beginning of a local search-and-rescue organisation, in connection with which a really small transceiver unit is being developed. The beginning of a local search-and-rescue organisation, in connection with which a really small transceiver unit is being developed. The beginning of a local search-and-rescue organisation, in connection with which a really small transceiver unit is being developed.

Council changes include a sort of Churchillian retirement to private membership by those indefatigable old veterans, JRF, TAF, TAF and V.L.M. who probably think they're going to have less to do. New line up: TGA driver, TCH and TAB push-pull vice-presidents (TCH reduced as finance-splitter); TGA secretary, and one or two others of us as ex-officio.

Many will remember ?WN's part in organising that most enjoyable tour of the Highlands and Islands in 1952. JRF, TAF, TAF and V.L.M. who probably think they're going to have less to do. New line up: TGA driver, TCH and TAB push-pull vice-presidents (TCH reduced as finance-splitter); TGA secretary, and one or two others of us as ex-officio.

Like most Hon. Secs., ours has been discovering that "virtus in re cwi" rewards. Hon. Sec. applies himself to Hon. Morse Practice for half an hour each Sunday at 0915, 3500 KC, with no recent indication that it is sending it to ought but the wind. To any who may feel like tackling this relatively untied technique, it can be recommended as a method of transferring information at maximum writing speed with minimum demand on power, bandwidth and fuss . . . a big claim, maybe, but I have no doubts.

If you know what I mean. In this matter of Morse proficiency, sir, an awkward question might well be asked at while its horns are still. It is a fact that the demand that might be made on the performance of low-powered equipment in some emergency? (a) How would you be when the demand does occur? (b) When the demand does occur, as it were, the whole of a fair merit—TZY.

NORTH WESTERN ZONE

Judging by the reports received, a very successful Amateur Radio Rally was held in Hobart, followed by the Dinner.

It is with some distress that I have to report that our Secretary has been in trouble with the Police. It is not the sort of thing I like to make public, so don't go and spread it around. I was our Secretary for 1951, standing on the steps of the Court House laughing and talking with an officer of the law, therefore, it was with some sorrow that I learnt that Sid had committed the crime of parking across a laneway. Boy! was he furious at being caught. Says he was only there about a minute.

Our President, Jim JFO, reports that v.s. are coming thick and fast. In fact I was the one-eyed monster myself in Burnie the other night. Fair bit of snow with it, though snow was good.

Also has a report of the second field day in the North West. Dennis TDR had the hidden tx and had much fun as the location was on a slight rise round which the road curved, and he was sign to sight the boys as they drove around the road, disappeared into the distance, and returned to dive into the scrub on the crown side of the road.

TED eventually found Dennis, nearly drove his car over the top of him, I believe, and then after getting his car stuck, got the other boys to help him out, and they still are.

The April meeting was a week late, so can't report on that. Heard our newcomer Lee RYC on one Sunday morning after the broadcast. Hope you got the V.I. last. Roy RYN also heard from his home station recently too. May I have a new speaker cone, please, Roy. I need a replacement after the speaker I had was signed to sight the boys at his place of work. He was rewiring a generator on a great big hissing steam engine, which made noise enough. In any case Chas said the engine had to get away in a hurry, so I took it he was busy, so I got away in a hurry too.

HAMADS

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WANTED: Manual for 108 Mc. III, 2.5 to 3.5 Mc., on portable Transceiver. Also one for 208 C.W. Set. R. Campbell, Box 42, Sorrento, Vic.

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